MKC-104/204 User's Manual

(May 2009)

WARNING
Do not attempt to disassemble your MKC device. Doing so may void your warranty. There are no serviceable parts inside. Please refer all servicing to qualified personnel.

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TECHNICAL SUPPORT
If you have any questions regarding the information provided in this guide, call our technical support help line at 425-885-3863 or our toll free help line at 1-877-AVI-TECH. You can also email to support@avitechvideo.com

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Warranty

Avitech International Corporation (herein after referred to as "Avitech") warrants to the original purchaser of the products manufactured in its facility (the "Product"), that these products will be free from defects in material and workmanship for a period of one (1) year or twelve (12) months from the date of shipment of the Product to the purchaser.

If the Product proves to be defective during the one (1) year warranty period, the purchaser's exclusive remedy and Avitech's sole obligation under this warranty is expressly limited, at Avitech's sole option, to:
(a) repair the defective Product without charge for parts and labor; or
(b) provide a replacement in exchange for the defective Product; or
(c) if after a reasonable time is unable to correct the defect or provide a replacement Product in good working order, then the purchaser shall be entitled to recover damages subject to the limitation of liability set forth next.

Limitation of liability: Avitech's liability under this warranty shall not exceed the purchase price paid for the defective product. In no event shall Avitech be liable for any incidental, special, or consequential damages, including without limitation, loss of profits for any breach of this warranty.

If Avitech replaces the defective Product with a replacement Product as provided under the terms of this Warranty, in no event will the term of the warranty on the replacement Product exceed the number of months remaining on the warranty covering the defective Product. Equipment manufactured by other suppliers and supplied by Avitech carries the respective manufacturer's warranty. Avitech assumes no warranty responsibility either expressed or implied for equipment manufactured by others and supplied by Avitech.

This Warranty is in lieu of all other warranties expressed or implied, including without limitation, any implied warranty of merchantability or fitness for a particular purpose, all of which are expressly disclaimed.

This Hardware Warranty shall not apply to any defect, failure, or damage:

- caused by improper use of the Product or inadequate maintenance and care of the Product;
- resulting from attempts by other than Avitech representatives to install, repair, or service the Product;
- caused by installation of the Product in a hostile operating environment or connection of the Product to incompatible equipment; or
- caused by the modification of the Product or integration with other products when the effect of such modification or integration increases the time or difficulties of servicing the Product.

Any Product which fails under conditions other than those specifically covered by the Hardware Warranty, will be repaired at the price of parts and labor in effect at the time of repair. Such repairs are warranted for a period of ninety (90) days from date of reshipment to customer.

Extended Warranty Options

Avitech offers OPTIONAL Extended Warranty plans that provide continuous coverage for the Product after the expiration of the Warranty Period. Contact an Avitech sales representative or details on the options that are available for your Avitech equipment.

Services and Repairs Outside the Warranty Period

Avitech make its best offer to repair products that is outside the warranty period, provided the product has not reached its end of life (EOL). The minimum charge for such repair excluding shipping and handling is $200 (US dollars).

Regulatory Information

NOTE: Marking labels located on the exterior of your device indicate the regulations that your model complies with. Please check the marking labels on your device and refer to the corresponding statements in this chapter. Some notices apply to specific models only.

Federal Communications Commission (FCC) Statement

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.

Properly shielded and grounded cables and connectors must be used in order to meet FCC emission limits. Avitech is not responsible for any radio or television interference caused by using other than recommended cables and connectors or by unauthorized changes or modifications to this equipment. Unauthorized changes or modifications could void the user's authority to operate the equipment.

Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

European Union CE Marking and Compliance Notices

Statements of Compliance

English
This product follows the provisions of the European Directive 1999/5/EC.

Danish
Dette produkt er i overensstemmelse med det europæiske direktiv 1999/5/EC.

Dutch
Dit product is in navolging van de bepalingen van Europees Directief 1999/5/EC.

Finnish
Tämä tuote noudattaa EU-direktiivin 1999/5/EC määräyksiä.

French
Ce produit est conforme aux exigences de la Directive Européenne 1999/5/EC.

German
Dieses Produkt entspricht den Bestimmungen der Europäischen Richtlinie 1999/5/EC.

Greek
Το προϊόν αυτό πληροί τις προβλέψεις της Ευρωπαϊκής Οδηγίας 1999/5/EC.

Icelandic
Þessi vara stenst reglugerð Evrópska Efnahags Bandalagsins númer 1999/5/EC.

Italian
Questo prodotto è conforme alla Direttiva Europea 1999/5/EC.

Norwegian
Dette produktet er i henhold til bestemmelsene i det europeiske direktivet 1999/5/EC.

Portuguese
Este produto cumpre com as normas da Diretiva Européia 1999/5/EC.

Spanish
Este producto cumple con las normas del Directivo Europeo 1999/5/EC.

Swedish
Denna produkt har tillverkats i enlighet med EG-direktiv 1999/5/EC.

New Zealand C-Tick Marking and Compliance Notice

Statement of Compliance

This product complies with New Zealand's standards for radio interference.

Preface

Welcome

Congratulations on purchasing this Avitech MKC (Mouse Keyboard Controller).

Just by using a set of keyboard and mouse, the Avitech MKC provides you a fast and convenient way to simultaneously supervise numerous computers on a single or multiple display configuration. MKC allows you to resize and position windows by dragging it anywhere on the display, control via hot keys, switch active window, as well as swap window position. It also comes with automatic detection that allows you to connect up to a maximum of 15 units.

The Avitech MKC is compatible with the following operating systems:

- Windows OS: 98 Special Edition, 2000 Professional, XP, Vista, Server 2003, Server 2008

  NOTE: Windows NT is currently not supported.

- Linux OS: Fedora 10, Ubuntu 8.1, Scientific 5.2, RedHat 5.1, Mint 6.0, Debian 5.0, PC Linux OS 2009, Open SUSE 11.1, Mandriva 2009, CentOS 5.2
- Mac OS

About this Manual

This manual contains comprehensive information of your Avitech MKC to help you operate the device.

Throughout the manual, the following conventions are used to distinguish elements of text.

> **NOTE:** provides additional hints or information that requires special attention.

> **CAUTION:** identifies important information which, if not followed, may result in loss of data or damage to your device.

Any name of menu, command, icon or button that you can see on the screen is shown in a bold typeset. For example:

On the **Start** menu, select **Settings**.

1 Getting Started

This chapter introduces you to the features and specifications as well as the external components of your Avitech MKC. It also guides you through the process of setting up your MKC for use.

> **NOTE:** Depending on the model you purchased, the cabinet color and the look of the accessories may be different from the ones shown in this manual.

1.1 Package Contents

After unpacking the shipping carton, you should find these standard items:

Avitech MKC

Proprietary RJ-45 to RS-232 (DB9-FM) Cable
(Refer to the “NOTE” below.)

AC/DC Switching Adapter

USB-A to USB-B Cable

PS/2 Y Cable

Mouse

Keyboard

Ear (optional) –
upon order for assembly on to rack mount

Bracket M (optional) –
upon order for assembly on to rack mount

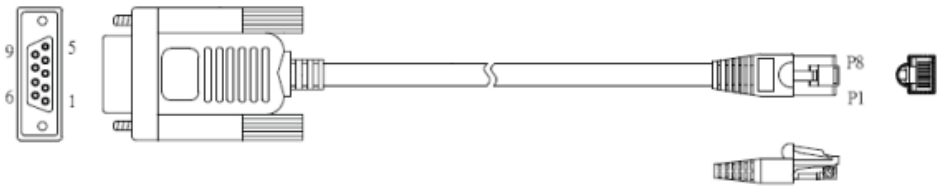
Bracket S (optional) –
upon order for assembly on to rack mount

Faceplate (optional) –
upon order for assembly on to rack mount

Blank Panel (optional) –
upon order for assembly on to rack mount

Screws (optional) –
upon order for assembly on to rack mount

NOTE: Due to space limitation, the serial connector is replaced with a RJ-45 connector. A proprietary RJ-45 to RS-232 (DB9-FM) cable is needed for serial function. The pin definition is shown next.



DB9-FM	
Pin	Assignment
1	
2	Tx
3	Rx
4	
5	Gnd
6	
7	
8	5 V
9	

RJ-45	
Pin	Assignment
1	Tx
2	Gnd
3	
4	Rx
5	Gnd
6	
7	
8	5 V

Accessories

The following items may be required when longer distance connection is desired. Contact the authorized sales representatives when ordering.

USB Extender

- Two types of USB extender (does not include the Cat5 cable in-between):
  – one-in plus one-out USB port (currently available as shown on the sample photo above)
  – two-in plus two-out (Y-cable) USB ports (future option)
- Optical DVI extender (future option)

1.2 Product Features

Model	No. of PC Connections	Compatible Multiviewer	Status
MKC-104 (standalone mode)	Up to 4 computers	VCC-8002V VCC-8004V VCC-8004U VCC-8008C VCC-8008U	Available
MKC-204 (cascade mode)	Up to 60 computers	VCC-8002V VCC-8004V VCC-8004U VCC-8008C VCC-8008U	Development stage

Hardware

- Provides LED indicators for the status of the PC selected, PC on-line, MKC cascade, Multiviewer connection, and power.
- Self powered through PS/2 or USB connection, or via AC/DC switching adapter.
- Automatic detection of PS/2 or USB interface when connected with PC.
- Firmware upgradeable.
- Supports daisy-chained cascade architecture up to 60 PCs.
- Hot-pluggable – add/remove computers without powering down the devices.
- Compatible with USB extender.

Software

- Keyboard lock keys (**Caps Lock**, **Num Lock**, **Scroll Lock**) automatically saved and restored when switching PCs.
- Switching PC directly via hot keys or using the host cursor when the MKC is coordinating with the VCC-8000 series.
- Integration with VCC-8000 series unit.
- Plug-and-Play support (USB only).
- Automatic detection and selection of optimum display resolution

Specifications

Parts		Specifications
I/O ports		4 × USB-B 4 × PS/2 1 × RS-485 (in) 1 × RS-485 (out) 1 × RJ-45 (host) 1 × USB-A mouse 1 × USB-A keyboard
PC connections		Up to 60 units (maximum)
LED for Host / PC		Lights green when on-line Lights amber when connected
Operating System compatibility		Microsoft Windows 98 SE / 2000 professional / XP / Vista / Server 2003 / Server 2008 / Mac / Linux OS: Fedora 10, Ubuntu 8.1, Scientific 5.2, RedHat 5.1, Mint 6.0, Debian 5.0, PC Linux OS 2009, Open SUSE 11.1, Mandriva 2009, CentOS 5.2 **NOTE:** Windows NT is currently not supported.
Port switching method		Using keyboard hot keys Using mouse combination keys
Power supply		Via USB or PS/2 connection, or Input: 100~240 V, 50/60 Hz, Output: 5V DC, 2A (external)
Housing		Metal
Dimension (W×D×H)		210×84×22 mm (8.27×3.3×0.87 inch)
Environment	Temperature	Operating: 0 °C (32 °F) to 40 °C (104 °F) Storage: –10 °C (–4 °F) to 50 °C (122 °F)
	Humidity	0 % to 80 % relative, non-condensing
Safety regulations		FCC / CE / C-Tick, Class A

Operating Modes

Two operating modes are available for the Avitech MKC namely:

- Host operation mode (when MKC is connected to the VCC-8000 series)
- Remote operation mode

Host Operation Mode

When the MKC is in the host operation mode, the mouse cursor is controlled by a local mouse connected to the master (ID0) MKC device. There is a host cursor to control all the position and size of four or more remote PCs.

Remote Operation Mode

When the MKC is in the remote operation mode, the mouse cursor and keyboard is used to control a specific PC connected to the MKC.

Special functions available on the host and remote operation modes are:

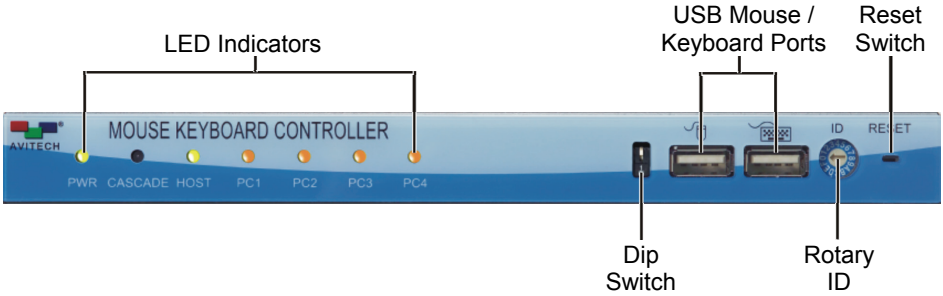
- VCC-8000 series models can connect to the MKC through the keypad port.

  IMPORTANT: DO NOT change the default setting of 57600 baud rate.

- By using a mouse you can activate the host cursor of the VCC-8000 series module. After activation the host cursor will be displayed on the screen along with the multi-windows.
- When host operation mode is active, use the mouse connected to the MKC to re-size and re-position any windows of the VCC-8000 series.
- When remote operation mode is active, operate a single PC system displayed as a window on the screen if the system has its mouse and keyboard connected to the MKC.
- To switch operation to a remote PC move the host cursor into a specific window on the screen and then double-click.
- To switch operation back to the host use the keyboard hot keys, the host cursor will reappear.

- A single MKC could have up to four PCs connected to it. Via a VCC-8000 series, you can control the PCs with all four windows shown simultaneously on a single display monitor.
- Cascade multiple MKC and VCC-8000 series for controlling more than four PCs simultaneously.
- When remote operation mode is active and the mouse is located in a specific PC window, the master (ID0) MKC transfers the mouse/keyboard input signal to the specific PC automatically.

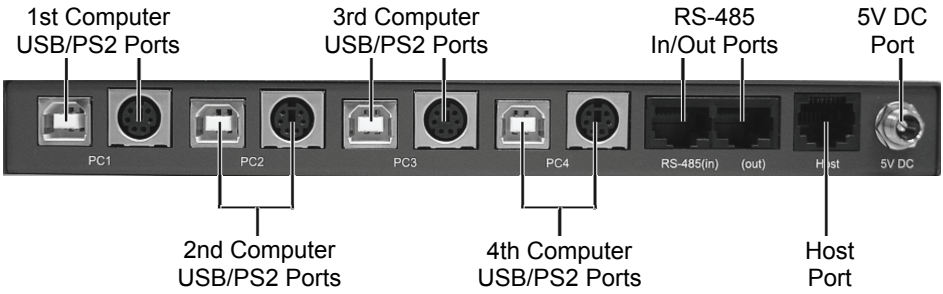
1.3 Identifying the Front Hardware Components



The following table shows the LED indicators on the front panel and the description.

LED	Description
PWR (power)	Lights green when the MKC is powered on.
CASCADE	Lights green when functioning as a master module.
	Lights amber when functioning as a slave module.
HOST	Lights green when operating on host mode.
	Lights amber when operating on remote PC mode.
PC1 ~ **PC4**	Lights green on a particular PC operating on remote PC mode.
	Lights amber for the rest of the PC not operating on remote PC mode but in Standby state.

1.4 Identifying the Rear Hardware Components



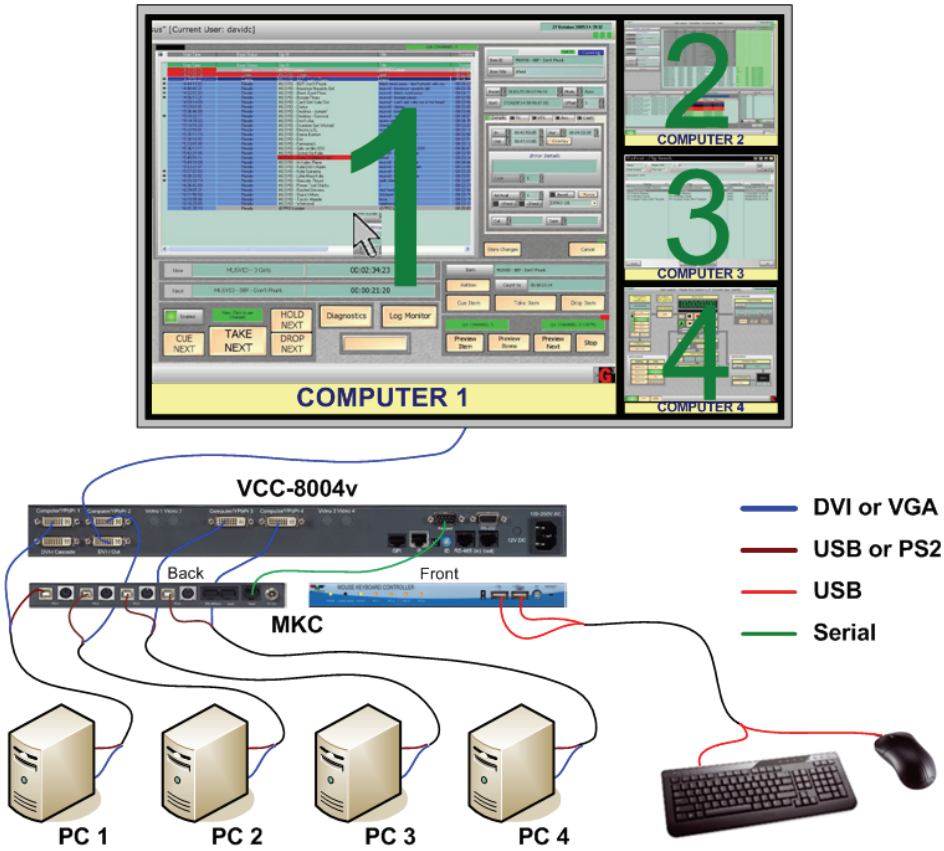
1.5 Getting Your MKC Ready for Use

The Avitech MKC can be configured to work in two types of setup namely:

- Standalone MKC
- Cascade of multiple MKCs

Standalone MKC

The following figure shows the sequence of steps to connect the Avitech MKC and VCC-8000 series to four PC systems.



To set up the Avitech MKC and VCC-8000 series, perform the following steps by referencing the previous figure:

1. Make sure the VCC-8000 series has the factory default setting by performing the following steps.
   a. Power off the VCC-8000 series.
   b. Flip the right dip switch down.
   c. Power on the VCC-8000 series for 20 seconds.
   d. Flip the right dip switch back up.

> **NOTE:** Another method is to enter the Galaxy program to confirm if the baud rate for Com A is set at 57600 bps. If not, set it to 57600 bps.

2. Set the Rotary **ID** on the VCC-8000 series to **0**.

3. Connect the four DVI / VGA / YPbPr signal cables between the VCC-8000 series' **Computer/YPbPr** ports and the four computer's respective DVI / VGA ports.
   PC1 connects to the **Computer/YPbPr 1** port,
   PC2 connects to the **Computer/YPbPr 2** port,
   PC3 connects to the **Computer/YPbPr 3** port,
   PC4 connects to the **Computer/YPbPr 4** port.
4. Connect the display monitor's DVI / VGA cable to the VCC-8000 series' **DVI-I Out**put port.
5. Connect the power cable to the VCC-8000 series and make sure that power is available.
6. Set the Rotary **ID** of the Avitech MKC to **0**.

NOTE: If the Rotary **ID** of the Avitech VCC-8000 series is not set to **0**, then make sure to set the Rotary **ID** of the Avitech MKC to be the same as the VCC-8000 series' (e.g., the VCC-8000 series is set at **5**, then the MKC must also be set to **5**).

7. Connect the mouse and keyboard devices to the corresponding mouse and keyboard USB ports located on the MKC's front panel.

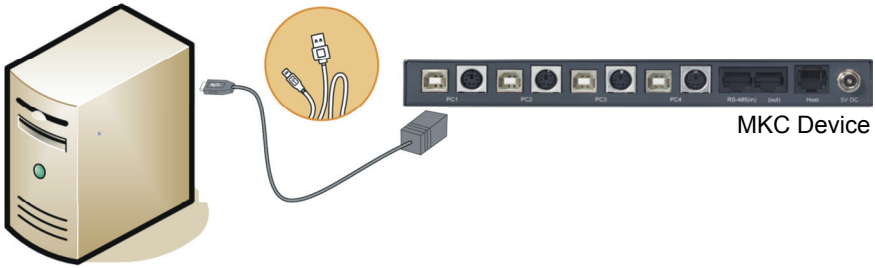
NOTE: If the mouse and keyboard is not connected to the corresponding mouse and keyboard USB ports located on the MKC's front panel, the MKC can still function properly.

8. Connect the RJ-45 to RS-232 cable between the MKC's **Host** port and VCC-8000 series' **Keypad** port.

MKC Device

VCC-8004V

9. Use the MKC's included USB-A to USB-B cables or PS/2 Y cables to perform the following.
   Connect the USB-A end of the cable to the computer's USB port and connect the USB-B end to the MKC's **PC1** USB port (on the rear panel). Or, use the PS/2 Y-cable to connect one end to the computer's mouse and keyboard PS/2 ports and the other end to the MKC's **PC1** PS/2 port (on the rear panel).
   For the next three computers use the included USB-A to USB-B cables or PS/2 Y cables to connect to the MKC's **PC2** / **PC3** / **PC4** USB or PS/2 ports.



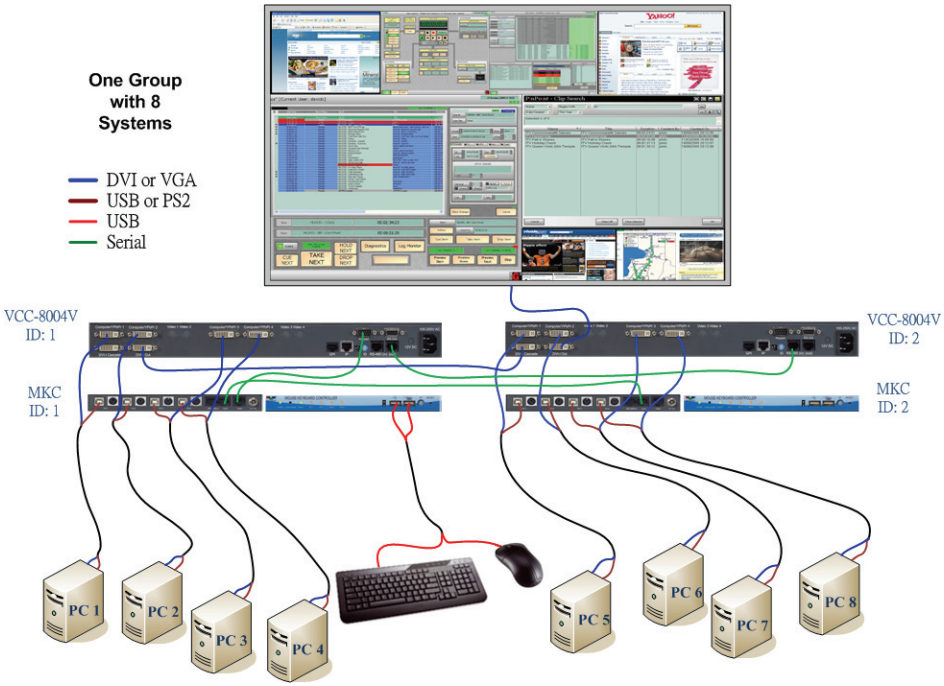
> **NOTE:** There is no need to connect the AC/DC switching adapter to the MKC when it is connected to the PC.

10. Move the mouse or press **Pause/Break** key and you will see the mouse pointer on the display monitor. You can now use the mouse or keyboard hot keys to perform various tasks (refer to the next chapter for a description of the hot keys function).

The default mouse and keyboard is located on the VCC-8000 series (Host) end.

Cascade of Multiple MKCs

Scenario 1 –
The following figure shows a sample setup of a single group with two Avitech MKC and two VCC-8000 series connected to eight PC systems.



To set up the two Avitech MKC and two VCC-8000 series, perform the following steps:

1. Make sure the two VCC-8000 series has the factory default setting by performing the following steps.
   a. Power off the VCC-8000 series.
   b. Flip the right dip switch down.
   c. Power on the VCC-8000 series for 20 seconds.
   d. Flip the right dip switch back up.

> **NOTE:** Another method is to enter the Galaxy program to confirm if the baud rate for Com A is set at 57600 bps. If not, set it to 57600 bps.

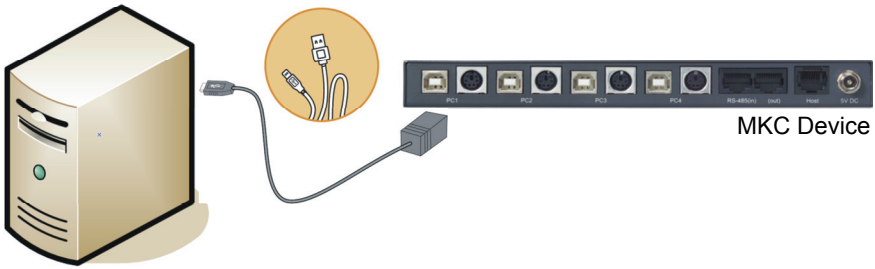
2. Set the Rotary **ID** on the two Avitech VCC-8000 series to **0** and **1**. The Rotary ID set at **0** indicates Master (it will show ID 1 on the Galaxy program) while the Rotary ID set at **1** indicates Slave (it will show ID 2 on the Galaxy program).

3. Use the RS-485 cable to connect one end to the VCC-8000 series' (ID1 "Master") **RS-485 (out)** port and the other end to the VCC-8000 series' (ID2 "Slave") **RS-485 (in)** port.

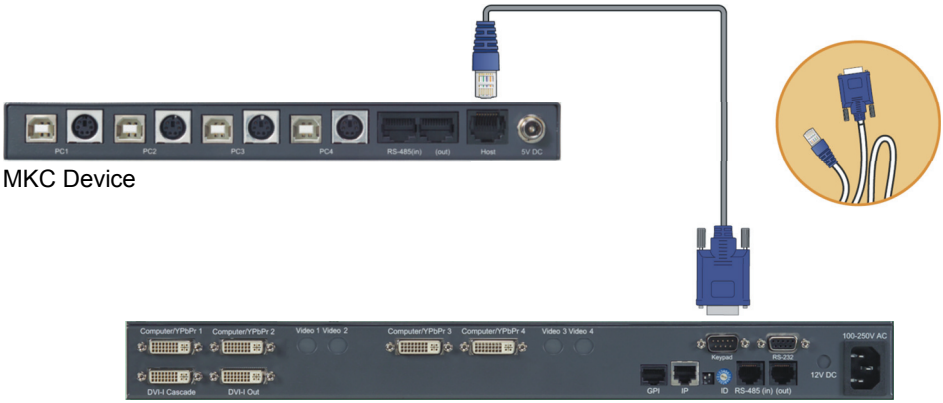
4. Use the eight DVI / VGA / YPbPr signal cables to perform the following. Connect the VCC-8000 series' (ID1 "Master") four **Computer/YPbPr** ports and the VCC-8000 series' (ID2 "Slave") four **Computer/YPbPr** ports to the eight computer's respective DVI / VGA ports.
   PC1 connects to ID1's **Computer/YPbPr 1** port,
   PC2 connects to ID1's **Computer/YPbPr 2** port,
   PC3 connects to ID1's **Computer/YPbPr 3** port,
   PC4 connects to ID1's **Computer/YPbPr 4** port,
   PC5 connects to ID2's **Computer/YPbPr 1** port,
   PC6 connects to ID2's **Computer/YPbPr 2** port,
   PC7 connects to ID2's **Computer/YPbPr 3** port,
   PC8 connects to ID2's **Computer/YPbPr 4** port.
5. Use the DVI cascading cable to connect one end to the VCC-8000 series' (ID1 "Master") **DVI-I Out** port and the other end to the VCC-8000 series' (ID2 "Slave") **DVI-I Cascade** port.
6. Connect the display monitor's DVI / VGA cable to the VCC-8000 series' (ID2 "Slave") **DVI-I Out**put port.
7. Connect the power cables to both VCC-8000 series and make sure that power is available.
8. Use the RS-485 cable to connect one end to the MKC's (ID1 "Master") **RS-485 (out)** port and the other end to the VCC-8000 series' (ID2 "Slave") **RS-485 (in)** port.
9. Connect the mouse and keyboard devices to the corresponding mouse and keyboard USB ports located on the MKC's (ID1 "Master") front panel.

> **NOTE:** If the mouse and keyboard is not connected to the corresponding mouse and keyboard USB ports located on the MKC's front panel, the MKC can still function properly.

10. Use the MKC's included USB-A to USB-B cables or PS/2 Y cables to perform the following.
    Connect the USB-A end of the cable to the computer's USB port and connect the USB-B end to the MKC's **PC1** USB port (on the rear panel). Or, use the PS/2 Y-cable to connect one end to the computer's mouse and keyboard PS/2 ports and the other end to the MKC's **PC1** PS/2 port (on the rear panel).
    For the next three computers use the included USB-A to USB-B cables or PS/2 Y cables to connect to the MKC's (ID1 "Master") **PC2** / **PC3** / **PC4** USB or PS/2 ports.
    The remaining four computers can use the included USB-A to USB-B cables or PS/2 Y cables to connect to the MKC's (ID2 "Slave") **PC1** / **PC2** / **PC3** / **PC4** USB or PS/2 ports.



11. Connect the RJ-45 to RS-232 cable between the MKC's (ID1 "Master") **Host** port and VCC-8000 series' (ID1 "Master") **Keypad** port.

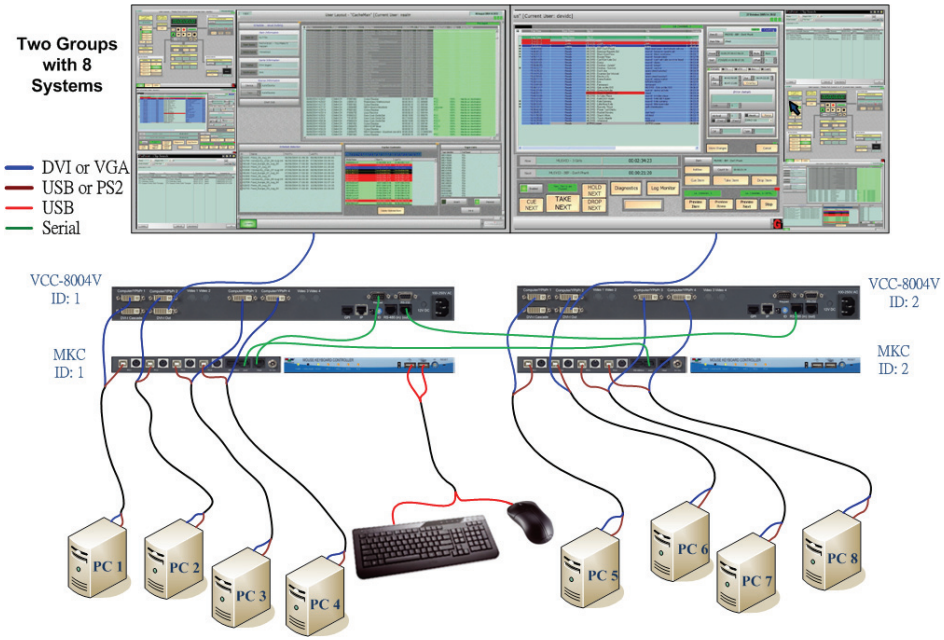


NOTE: There is no need to connect the AC/DC switching adapter to the MKC when it is connected to the PC.

12. Move the mouse or press the **Pause/Break** key and you will see the mouse pointer on the display monitor. You can now use the mouse or keyboard hot keys to perform various tasks (refer to the next chapter for a description of the hot keys function).

The default mouse and keyboard is located on the VCC-8000 series (Host) end.

Scenario 2 –
The following figure shows a sample setup of two groups with of two Avitech MKC and two VCC-8000 series connected to eight PC systems.



To set up the two Avitech MKC and two VCC-8000 series, perform the following steps:

1. Make sure the two VCC-8000 series has the factory default setting by performing the following steps.
   a. Power off the VCC-8000 series.
   b. Flip the right dip switch down.
   c. Power on the VCC-8000 series for 20 seconds.
   d. Flip the right dip switch back up.

> **NOTE:** Another method is to enter the Galaxy program to confirm if the baud rate for Com A is set at 57600 bps. If not, set it to 57600 bps.

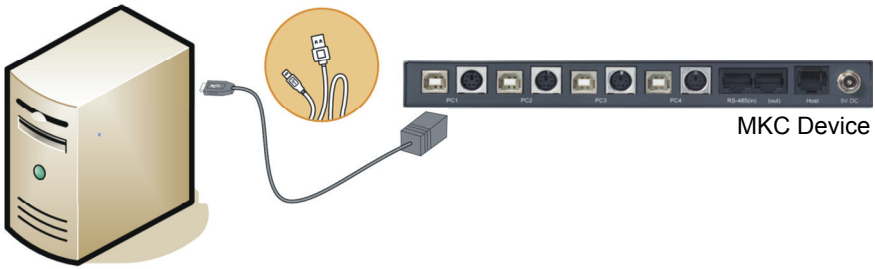
2. Set the Rotary **ID** on the two Avitech VCC-8000 series to **0** and **1**. The Rotary ID set at **0** indicates Master (it will show ID 1 on the Galaxy program) while the Rotary ID set at **1** indicates Slave (it will show ID 2 on the Galaxy program).

3. Use the RS-485 cable to connect one end to the VCC-8000 series' (ID1 "Master") **RS-485 (out)** port and the other end to the VCC-8000 series' (ID2 "Slave") **RS-485 (in)** port.

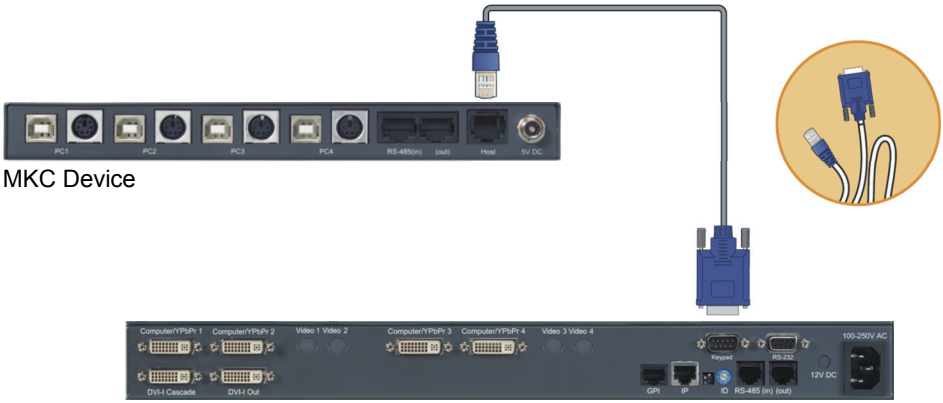
4. Use the eight DVI / VGA / YPbPr signal cables to perform the following. Connect the VCC-8000 series' (ID1 "Master") four **Computer/YPbPr** ports and the VCC-8000 series' (ID2 "Slave") four **Computer/YPbPr** ports to the eight computer's respective DVI / VGA ports.
   PC1 connects to ID1's **Computer/YPbPr 1** port,
   PC2 connects to ID1's **Computer/YPbPr 2** port,
   PC3 connects to ID1's **Computer/YPbPr 3** port,
   PC4 connects to ID1's **Computer/YPbPr 4** port,
   PC5 connects to ID2's **Computer/YPbPr 1** port,
   PC6 connects to ID2's **Computer/YPbPr 2** port,
   PC7 connects to ID2's **Computer/YPbPr 3** port,
   PC8 connects to ID2's **Computer/YPbPr 4** port.
5. Use the DVI cascading cable to connect one end to the VCC-8000 series' (ID1 "Master") **DVI-I Out** port and the other end to the VCC-8000 series' (ID2 "Slave") **DVI-I Cascade** port.
6. Connect one display monitor's DVI / VGA cable to the VCC-8000 series' (ID1 "Master") **DVI-I Out**put port.
7. Connect another display monitor's DVI / VGA cable to the VCC-8000 series' (ID2 "Slave") **DVI-I Out**put port.
8. Connect the power cables to both VCC-8000 series and make sure that power is available.
9. Use the Galaxy program to perform setup by connecting the network cable to the VCC-8000 series' (ID1 "Master") **IP** port.
10. Assign the VCC-8000 series (ID1 "Master") as Group 1, assign the VCC-8000 series (ID2 "Slave") as Group 2. Then save the configuration to flash memory (**Settings → System Parameter → Save System Files to Flash**). Then close the Galaxy program.
11. Use the RS-485 cable to connect one end to the MKC's (ID1 "Master") **RS-485 (out)** port and the other end to the VCC-8000 series' (ID2 "Slave") **RS-485 (in)** port.
12. Connect the mouse and keyboard devices to the corresponding mouse and keyboard USB ports located on the MKC's (ID1 "Master") front panel.

> **NOTE:** If the mouse and keyboard is not connected to the corresponding mouse and keyboard USB ports located on the MKC's front panel, the MKC can still function properly.

13. Use the MKC's included USB-A to USB-B cables or PS/2 Y cables to perform the following.
    Connect the USB-A end of the cable to the computer's USB port and connect the USB-B end to the MKC's **PC1** USB port (on the rear panel). Or, use the PS/2 Y-cable to connect one end to the computer's mouse and keyboard PS/2 ports and the other end to the MKC's **PC1** PS/2 port (on the rear panel).
    For the next three computers use the included USB-A to USB-B cables or PS/2 Y cables to connect to the MKC's (ID1 "Master") **PC2** / **PC3** / **PC4** USB or PS/2 ports.
    The remaining four computers can use the included USB-A to USB-B cables or PS/2 Y cables to connect to the MKC's (ID2 "Slave") **PC1** / **PC2** / **PC3** / **PC4** USB or PS/2 ports.



14. Connect the RJ-45 to RS-232 cable between the MKC's (ID1 "Master") **Host** port and VCC-8000 series' (ID1 "Master") **Keypad** port.



NOTE: There is no need to connect the AC/DC switching adapter to the MKC when it is connected to the PC.

15. Move the mouse or press **Pause/Break** key and you will see the mouse pointer on the display monitor. You can now use the mouse or keyboard hot keys to perform various tasks (refer to the next chapter for a description of the hot keys function).

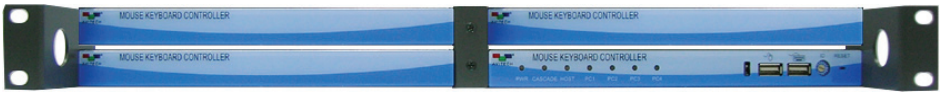
The default mouse and keyboard is located on the VCC-8000 series (Host) end.

NOTE:
- If you are using the PS/2 cable to connect to the computer, you need to restart the computer.
- Do not use both the USB-A to USB-B cable and PS/2 Y cable simultaneously on the same computer to connect to the MKC.

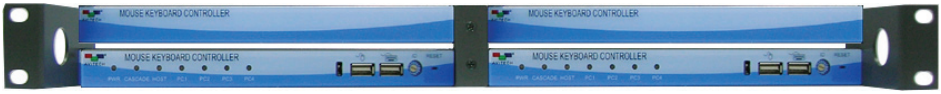
1.6 Rack Mounting the MKC

The following rack mount configurations are possible for your MKC namely:

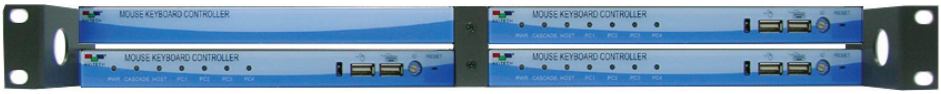
- One MKC + three blank panels



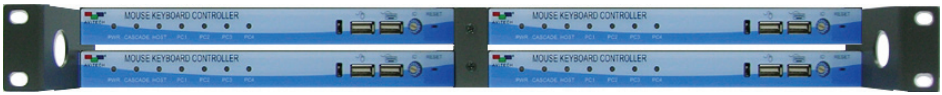
- Two MKC + two blank panels



- Three MKC + one blank panel



- Four MKC.



To set up the rack-mounted MKC, perform the following steps:

1. Remove the two screws on each side (near the front left and front right) of your MKC.

remove 2 front screws remove 2 front screws

2. Align and connect the ear to the right front portion of your MKC using the included rack mount screws (2).

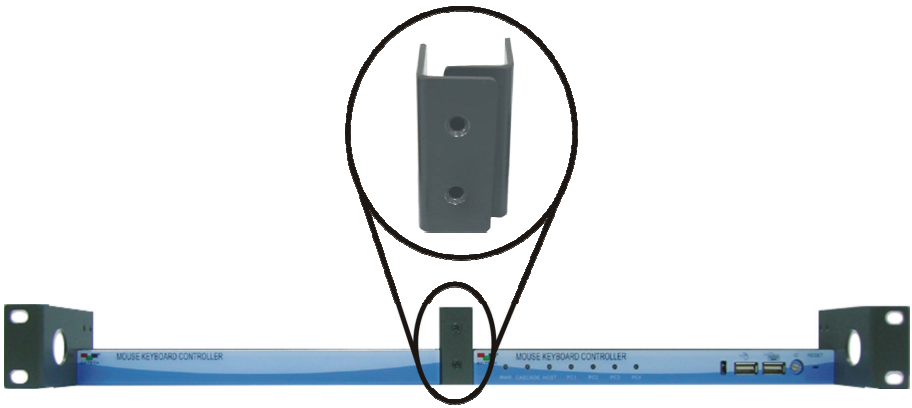
3. Align and connect the bracket S to the left front portion of your MKC using the included rack mount screws (2).

4. Peel off the adhesive on the back of the faceplate, then carefully align and stick it on the blank panel (this is an optional step as this is purely for esthetic value only, you may forego this step).

5. Align and connect the ear to the left front portion of your blank panel using the included rack mount screws (2).

6. Align and connect the bracket M to the right front portion of your MKC using the included rack mount screws (2).

7. Align and connect the left blank panel to the right MKC module by making sure to overlap the bracket M over the bracket S. Then secure using the included rack mount screws (2).



8. Secure the rack mount panel to the server rack.
9. Perform the above steps to install additional MKC or blank panel(s).

2 Basic Skills

This chapter familiarizes you with using the mouse and keyboard hot keys to perform basic operations of your Avitech MKC.

2.1 Using the Mouse

> **NOTE:** If you are a left-handed user, you may want to configure the mouse to suit your needs. You can swap the two buttons so that you can use the right button as the left button and vice versa (refer to "Setting the Active Window Feature / Configuring the Mouse" on Chapter 3 for details).

On the VCC-8000 series (host), you can double-click the window of the particular PC you want to control. The next table lists the basic operations you can perform using the mouse.

Function	Action
Window resizing	Drag the border of a window to a desired size.
Window repositioning	Drag a window to a new position.
Window swapping	Move the host cursor to the lower left corner of a window until the mouse pointer becomes a capital letter **S**, then click the left button. Move the host cursor (still a capital letter **S**) to the destination window follow by a click on the left button.
Full screen window	Move the host cursor to the top right corner of a window until the mouse pointer becomes a capital letter **F**, then click the left button and the window will maximize to full screen mode. Repeat the steps to return back from full screen mode.

Function	Action
Access a remote PC	Double-click when the host cursor is on a remote PC window. The newly accessed remote system will be displayed on the editing window. The remote system that was just exited will be displayed in the window previously occupied by the newly switched remote system. From then on all the mouse and keyboard inputs will be directed to that particular remote PC.

2.2 Using the Keyboard

The next two tables list the basic operations you can perform using the keyboard.

> **NOTE:** Use the following hot keys only in the host operation mode. Input letter is not case sensitive.

Keys	Function
Ctrl + **Esc**	To exit the MKC operation for user to perform setup using the Galaxy program by holding **Ctrl** and then pressing **Esc**. When using serial communication then you need to unplug the **Keypad** port cable and then plug in the cable coming from your computer's serial port to the MKC's **RS-232** port. When using IP via the network cable then there is no need to unplug the **Keypad** port cable.
Ctrl + **S**	To save the latest preset to flash memory so that on the next boot-up the latest preset would be loaded by holding **Ctrl** and then pressing **S**.
↑	To load the previous user-created (via Galaxy program **Option** menu's **Save File** button) preset file by pressing ↑ arrow key.
↓	To load the next user-created (via Galaxy program **Option** menu's **Save File** button) preset file by pressing ↓ arrow key.
Ctrl + **MP**	To toggle a window on and off. Where **M** is the module ID and **P** is the processor (window) number (e.g., holding **Ctrl** and then typing **32** would turn on/off window 2 of module ID 3). A new window will display at the upper left corner. If there is a window taking up the corner, it may require moving the newly opened window to be able to see the previously opened window.
Ctrl + **L**	To toggle lock/unlock keyboard and mouse while user is away by holding **Ctrl** and then pressing **L**. The keyboard and mouse will become inoperable when locked.

Keys	Function
Ctrl + **J**	To perform automatic video adjustment on the window where the host cursor is presently on by holding **Ctrl** and then pressing **J**. Once in the Automatic Video Adjustment mode the following are two valid inputs:
I	Automatic image adjustment.
G	Automatic image gain adjustment.
Ctrl + **R**	To toggle the lock video aspect ratio of 4:3, 16:9, and no lock for the window where the host cursor is currently on by holding **Ctrl** and then pressing **R**.
Ctrl + **F#** (for MKC-204 only)	To move the host cursor from one group (screen) to the other by holding **Ctrl** and then pressing **F#** (where **F#** is the function key and can be **F1** ~ **F12**). **F1** would correspond to Group 1, **F2** would correspond to Group 2, and so forth.
F#	To access a remote system press **F#** (where **F#** is the function key and can be **F1** ~ **F12**). **F1** would correspond to Computer 1, **F2** would correspond to Computer 2, and so forth. The newly accessed remote system will be displayed on the editing window. The remote system that was just exited will be displayed in the window previously occupied by the newly switched remote system. You can only access a remote system from the screen where it is displayed.
Shift + **F#**	To access a remote system hold **Shift** and then press **F#** (where **F#** is the function key and can be **F1** ~ **F12**). **F1** would correspond to Computer 1, **F2** would correspond to Computer 2, and so forth. You can only access a remote system from the screen where it is displayed. **NOTE:** You can also hold **Shift** and double-click the mouse for the same effect.
Page Up	Load the previous factory-default preset file.
Page Down	Load the next factory-default preset file.
Ctrl + **Z**	Undo up to ten previous action.
Ctrl + **Y**	Redo up to ten previous “undone” action.

NOTE: Pressing **Ctrl** + **Esc** hot key as well as the “Load Preset” action will clear the undo (**Ctrl + Z**) / redo (**Ctrl + Y**) list in memory.

NOTE: You can use the following hot key in the remote operation mode.

Key	Function
Pause Break	To exit from the remote operation mode to the host operation mode.
Ctrl + **Esc**	To exit the MKC operation for user to perform setup using the Galaxy program by holding **Ctrl** and then pressing **Esc**. When using serial communication then you need to unplug the **Keypad** port cable and then plug in the cable coming from your computer's serial port to the MKC's **RS-232** port. When using IP via the network cable then there is no need to unplug the **Keypad** port cable.
Ctrl + **Shift** + **Alt** + **V**	Run the Microsoft Notepad program, then press **Ctrl** + **Shift** + **Alt** + **V** to read the MKC firmware version. **NOTE:** This is possible only if the PC and MKC is connected via the USB-A to USB-B cable.

3 Galaxy Program

This chapter introduces you to the Galaxy program for setting the features of VCC-8000 series when working in tandem with MKC.

3.1 Using the Galaxy Program

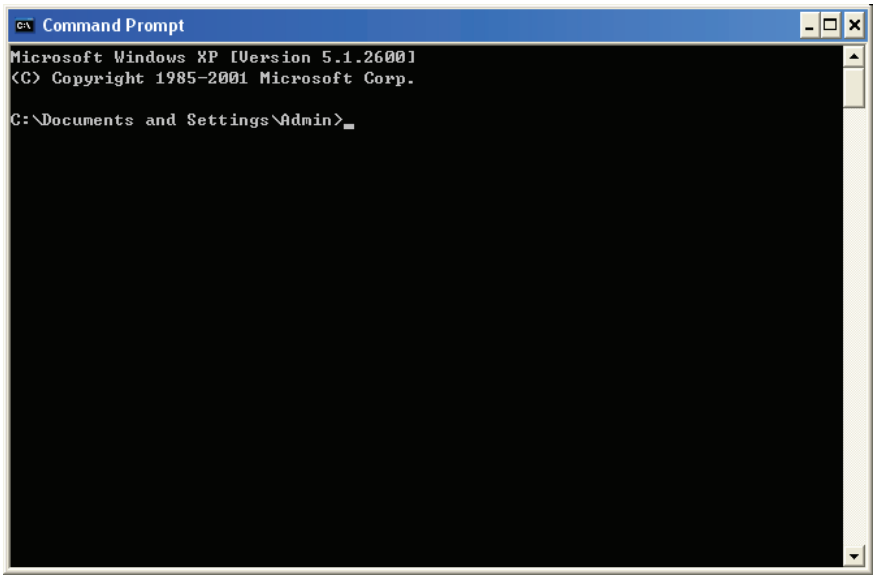
The Galaxy program is designed to be used with Avitech Multiviewer modules. This software can be used on your PC or laptop computer. This section introduces the Galaxy program for setting up your system.

To start up the Galaxy program, perform the following steps:

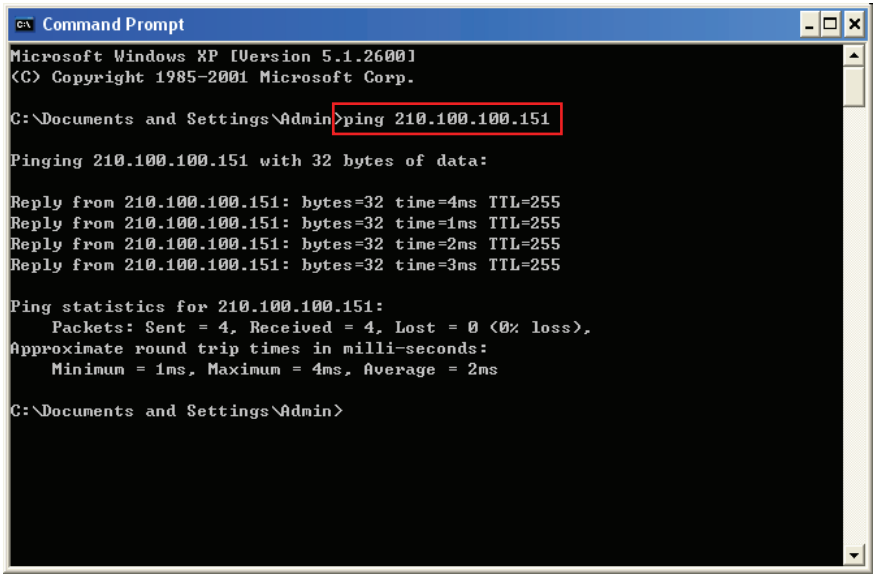
1. Whether you are operating in remote or host mode; press **Ctrl** + **Esc** to exit the current MKC operation.
2. If you will use the network cable (IP address) to connect, configure your computer to the following setting:
   IP address **`210.100.100.150`** and subnet mask **`255.255.255.0`**.

   If you will use the serial cable to connect, configure your computer's COM port to be **`1`** ~ **`10`**.

3. If you decide to use the network cable to connect, make sure you can ping the module at **210.100.100.151** (factory default IP address) by clicking on **Start → All Programs → Accessories → Command Prompt**. The following screen appears.

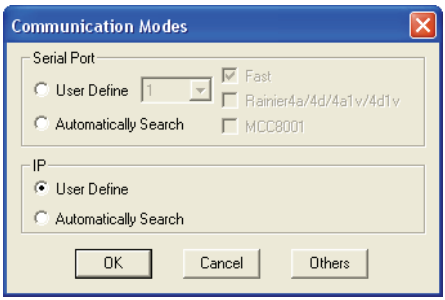


4. Type **`ping 210.100.100.151`** and the following screen appears to signify a successful communication.

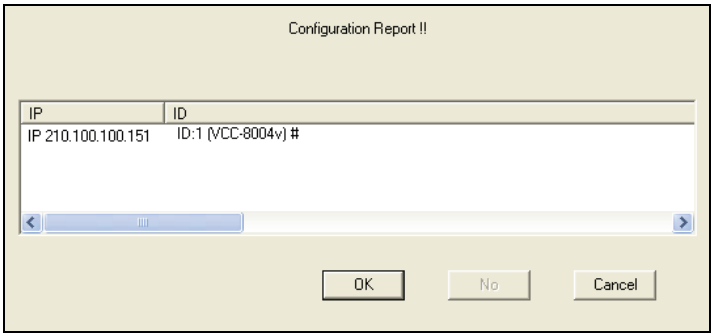

Command Prompt
Microsoft Windows XP [Version 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.
C:\Documents and Settings\Admin>ping 210.100.100.151
Pinging 210.100.100.151 with 32 bytes of data:
Reply from 210.100.100.151: bytes=32 time=4ms TTL=255
Reply from 210.100.100.151: bytes=32 time=1ms TTL=255
Reply from 210.100.100.151: bytes=32 time=2ms TTL=255
Reply from 210.100.100.151: bytes=32 time=3ms TTL=255
Ping statistics for 210.100.100.151:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 1ms, Maximum = 4ms, Average = 2ms
C:\Documents and Settings\Admin>

5. Type **`exit`** to exit the **Command Prompt** screen.

6. Run the Galaxy program by double-clicking the **`Galaxy-V311.exe`** file. When the following screen appears, choose either **Serial Port** or **IP**. Then click **OK**.



7. The Galaxy program will automatically detect all the modules that are connected to the computer. Make sure all the modules are found and select **OK** to continue.

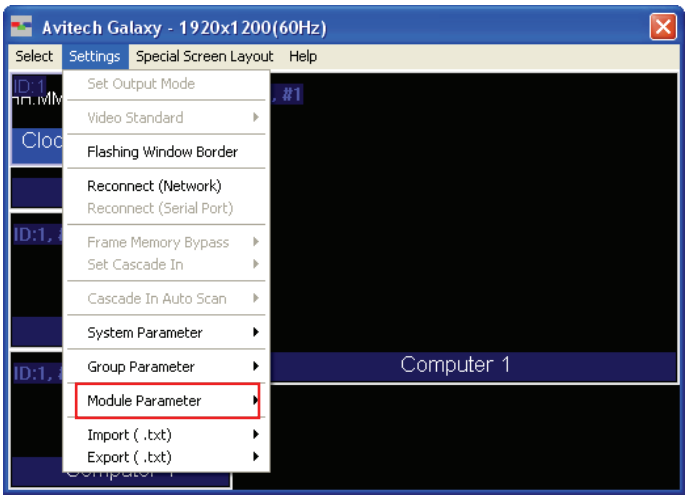


8. The Galaxy program main screen will appear.

Automatic Detection of Optimum Display Resolution

By default, the VCC-8000 series will automatically detect the optimum display resolution. To disable this feature, perform the following steps:

1. Click **Settings** then **Module Parameter**.



2. Click **Auto Parameter**.

3. Click to unselect (remove the check mark) the **Detect Display Resolution** option.

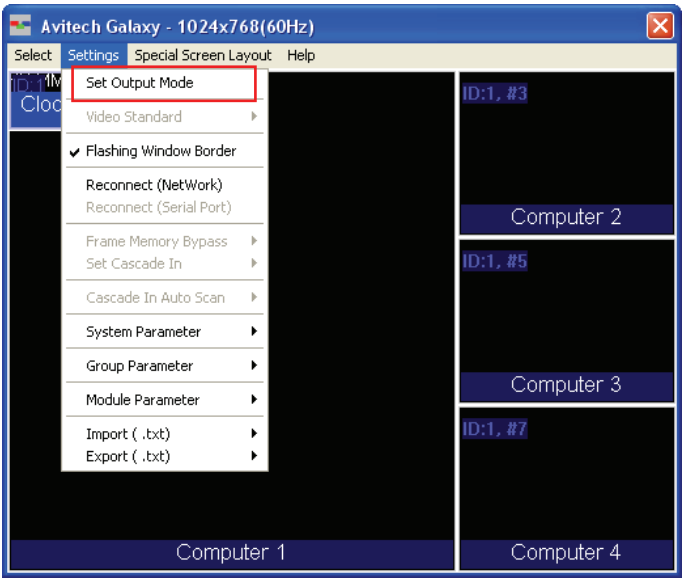
NOTE:
- When the **Detect Display Resolution** option is selected (with check mark), all the presets will be displayed in the optimum resolution.
- When the **Detect Display Resolution** option is unselected (without check mark) and you have set the desired resolution using the **Set Output Mode** option, all the presets will be displayed in the desired resolution that you have set.

Setting the Desired Output Resolution

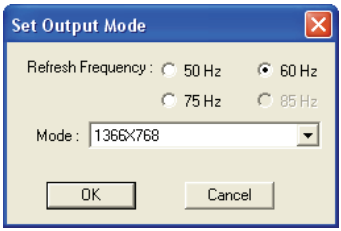
By default the system will automatically detect the best resolution for the monitor display. To set the desired output resolution, perform the following steps:

1. Make sure the **Detect Display Resolution** option is disabled (see the previous section).

2. Click **Settings** then **Set Output Mode**.



3. Select the **Refresh Frequency** and then select the **Mode** from the drop down menu.



4. Click **OK** to update to monitor display.

NOTE:

- When the output resolution is set at 1366×768 / 1400×1050 / 1680×1050 and the display is set at the default 2×2 layout, misalignment will occur due to the software's automatic scaler feature. This is because a window on the monitor display increases/decreases by increments of 16 pixels horizontally, and the midpoint of the 1366×768 / 1400×1050 / 1680×1050 resolution is not divisible by 16 pixels. Oftentimes this also causes the rightmost portion of the monitor display to have a 16 pixel black curtain.
- When the preset file's output resolution is set below the optimum display resolution, and afterwards the **Detect Display Resolution** option is enabled, small gaps between windows as well as overlapping windows may occur.

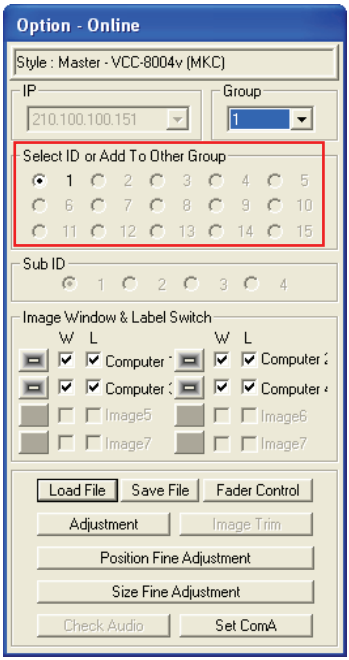
Creating New Groups (for MKC-204)

By default, the Galaxy program will combine all available modules into one group. If you want the modules to be separated into two groups, you will need to divide up the modules in the Galaxy program. Also, make sure the modules are physically wired similar to the illustration on the previous chapter on "MKC Connected to Eight PC Systems – Scenario 2."

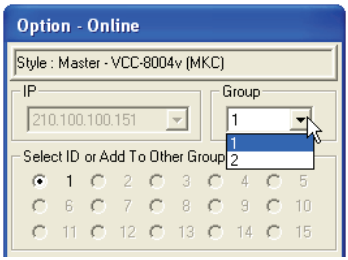
To create a new group, perform the following steps:

Method 1:

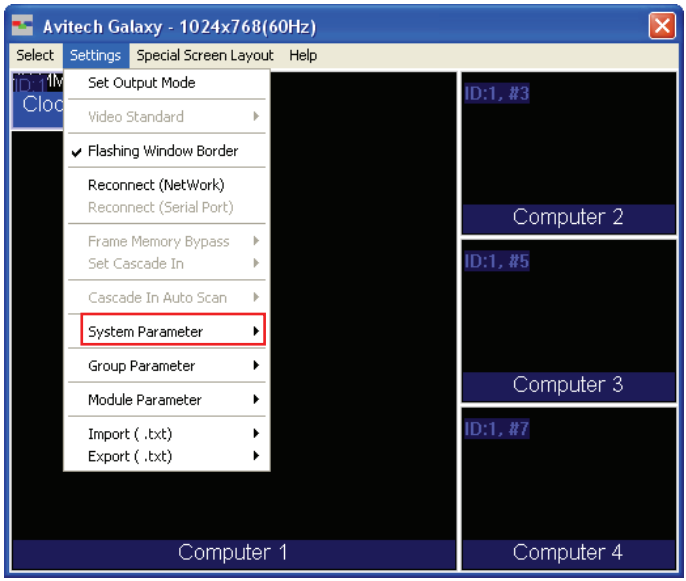
1. On the **Option** window, under **Select ID or Add to Other Group** portion.



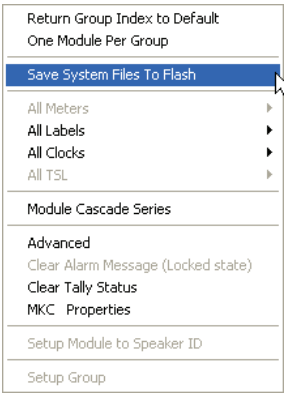
2. Select the ID and right-click the mouse on it, then click **New Group**.
3. To switch between different groups, use the **Group** drop down menu to select.



4. Click **Settings** then **System Parameter**.

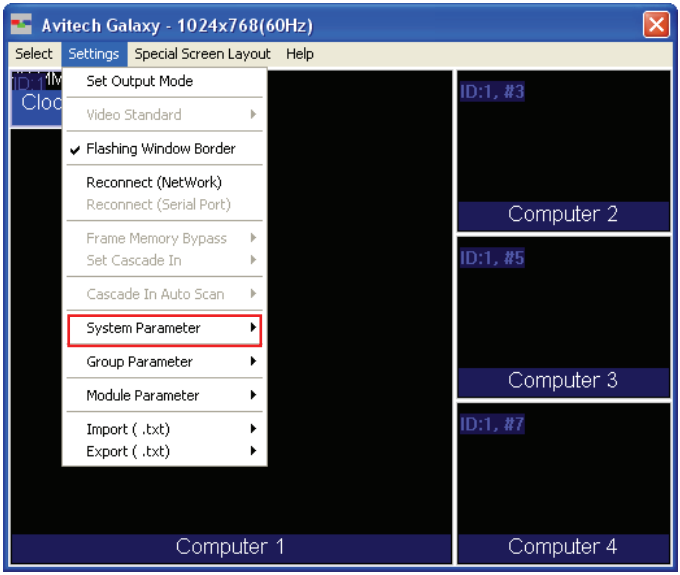


5. Click **Save System Files to Flash** before you continue to perform other feature setups. When closing the Galaxy program, select **Yes** when prompted to save to flash memory.

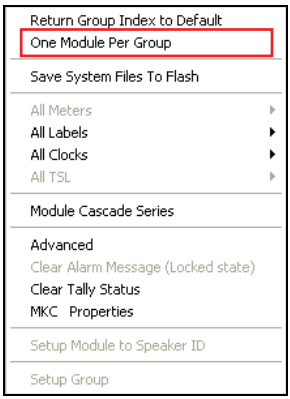


Method 2:

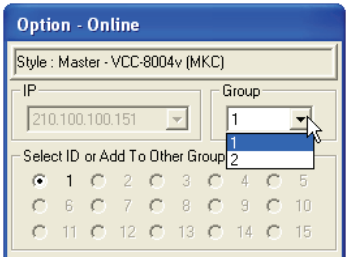
1. Click **Settings** then **System Parameter**.



2. Click **One Module Per Group**.

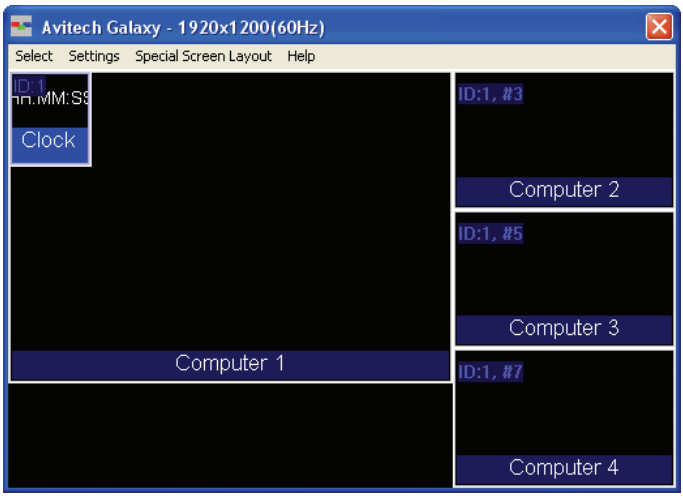


3. To switch to a different group, click the **Group** drop down menu to select the desired group.

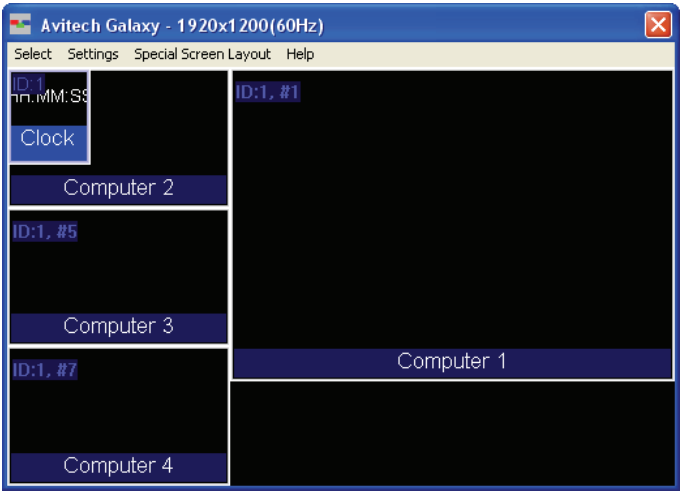


Using the Default Window Layouts

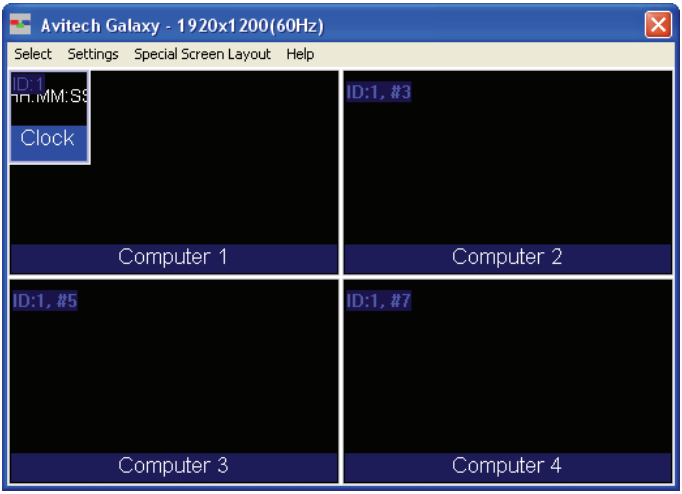
Available are three default window layouts namely:



layout1.GP1



layout2.GP1



layout3.GP1

NOTE: To switch between the three factory-default presets, use the **Page Up** / **Page Down** keys. Refer to Chapter 2 on "Using the Keyboard" for more details.

To change to a different window layout, perform the following steps:

1. Right-click the mouse on the top blue bar portion of the Galaxy program.

2. Click **Group Layout** on the menu that appears.

3. Select the desired window layout from the menu that appears.

Save/Load Preset File

Allows you to save/open the desired window layout.

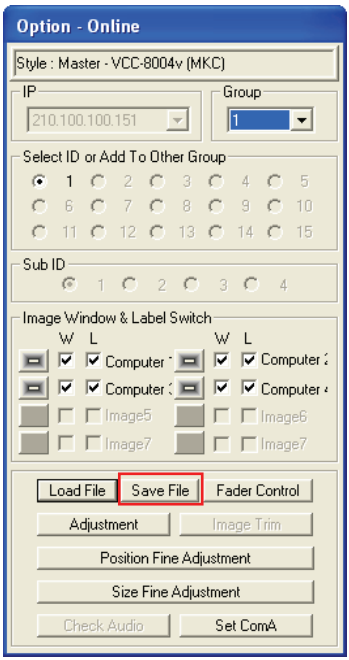
Saving File to Flash Memory

There are two instances that you will need to use the save file to flash memory feature:

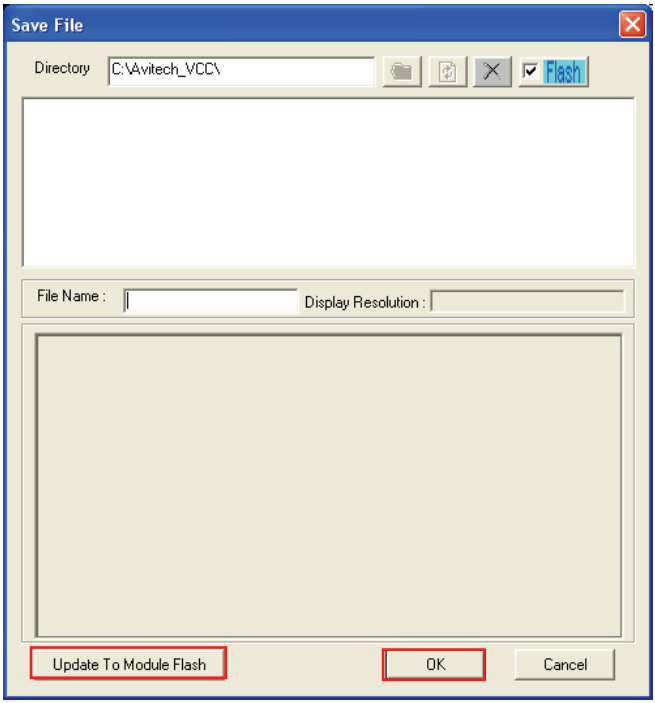
- After creating the master layout and you want the VCC-8000 series to load it again when the unit is power cycled (shutdown and restart).
- After you are done saving presets and you want to save all the presets that were created into the internal flash memory of the module. If this action is skipped, the module will lose all the presets that were created.

To save to flash, perform the following steps:

1. Click **Save File** on the **Option** window.



2. Click **Update to Module Flash**, then click **OK**.



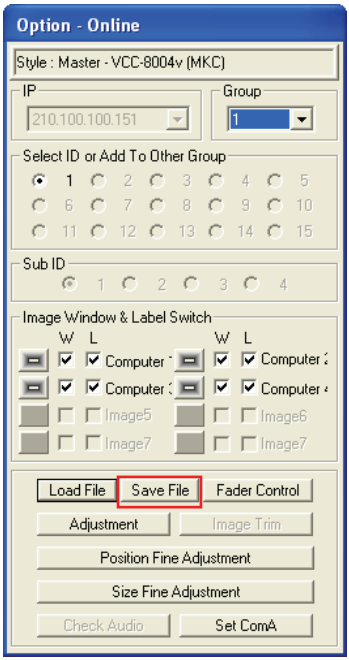
Or, close the Galaxy program and select **Yes** when prompted to save.

Saving a Preset

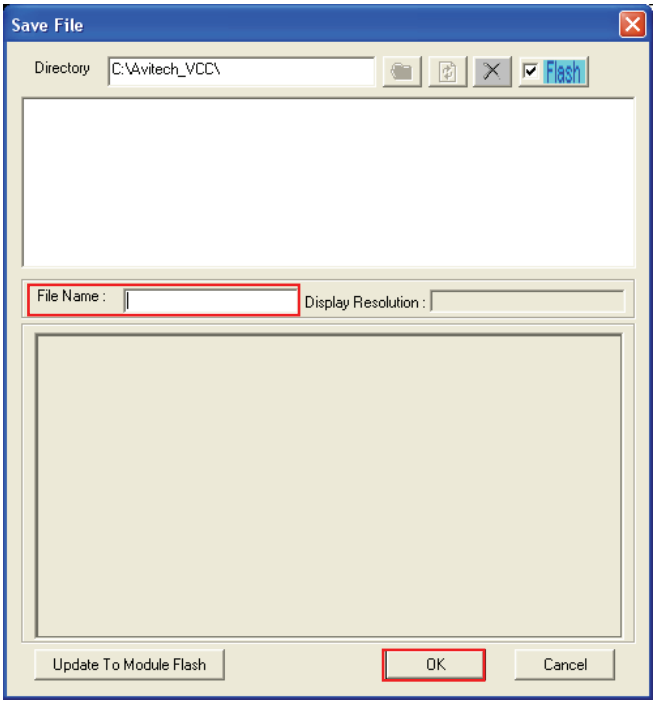
All the presets you create are stored in the VCC-8000 series and not in the computer that is running the Galaxy program. In order to write all the presets into the internal flash memory of the VCC-8000 series after creating it, you will need to save to flash. To save a preset, perform the following steps:

1. Configure the window layout to how you want it to display.

2. Click **Save File** on the **Option** window.



3. Enter a unique filename for the preset and select **OK** to save.



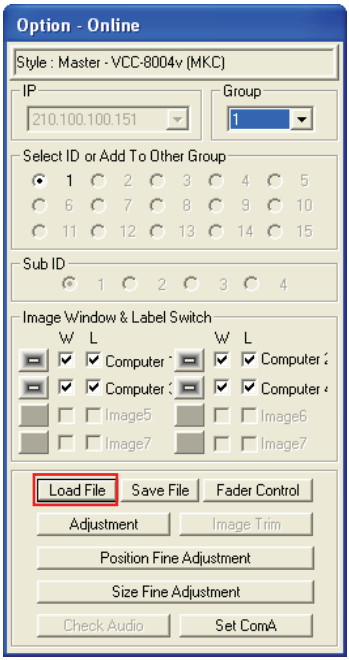
You can use a mixture of alphabets and numbers when naming the filename (up to 30 characters). The file extension **GP#** will be automatically added to the file name.

NOTE:
- When using a keypad, use the numbers **0** ~ **9** for your preset names.
- When using the GPI, use the numbers **1** ~ **8** for your preset names.

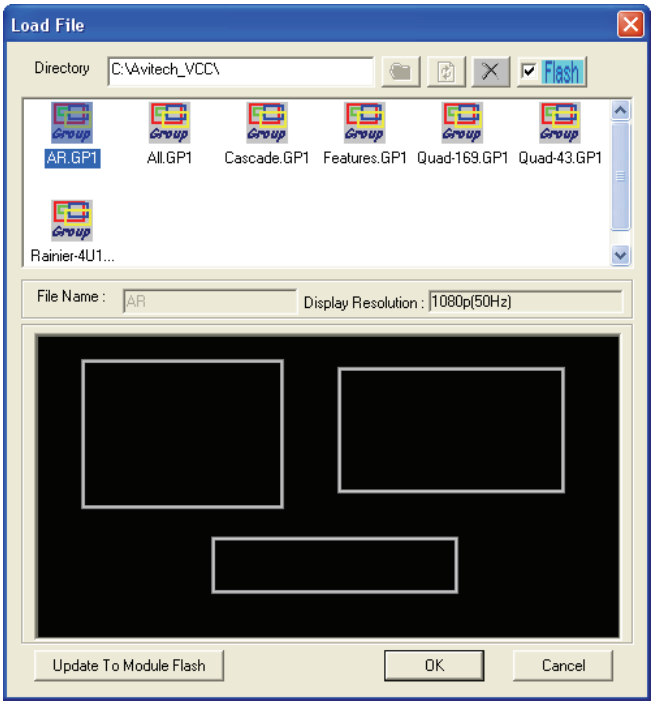
4. Repeat the above steps for each additional presets.
5. After you are done creating presets, load the file that you want to be the master layout, which gets loaded when the VCC-8000 series is powered on.
6. Close the Galaxy program and select **Yes** when prompted to save to flash.

Loading File

1. In the **Option** menu, click **Load File**.



2. Select a saved file then click **OK** to load the preset.



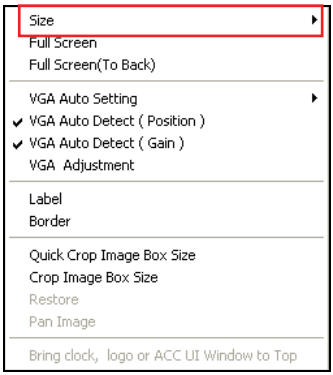
NOTE:

- When saving your preset do not use the same filename as the system's default preset filename (e.g., **`layout1.GP1`** / **`layout2.GP1`** / **`layout3.GP1`**).
- The sequence for loading the preset file when using the hot keys (↑ / ↓ arrow keys) is based on the time when the preset file was first created and saved. Subsequent modification and saves will not affect this sequence (order).
- The hot key **Ctrl** + **S** can save the latest preset to flash memory so that on the next VCC-8000 series boot-up the preset would be loaded.

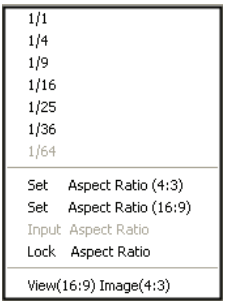
Adjusting the Window Size

To adjust the size of an individual window, perform the following steps:

1. Right-click the mouse on a window and click **Size**.



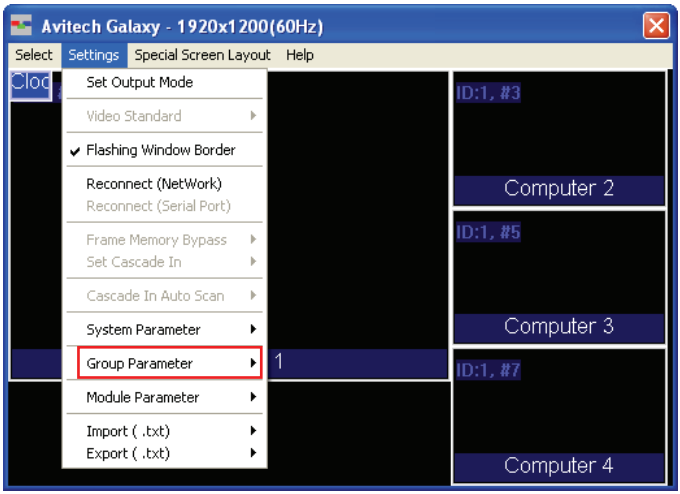
2. Then select the size you want to change to.



Viewing Multiple Windows

When you have multiple modules and want to quickly configure them to see all the available windows, perform the following steps:

1. Click **Settings** then **Group Parameter**.

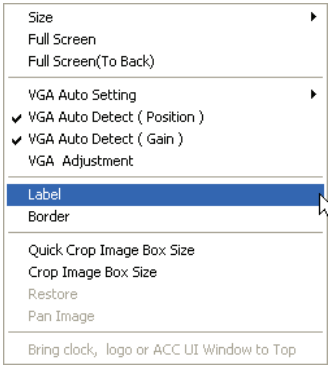


2. Click **Set Default Layout**.

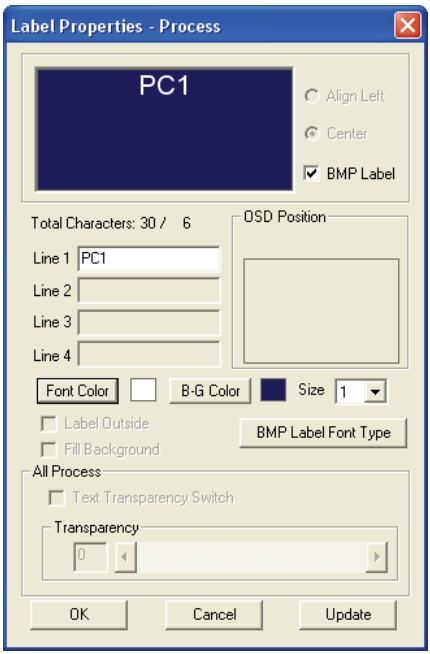
Using the Label / Border Features

To change the label / BMP label content, perform the following steps:

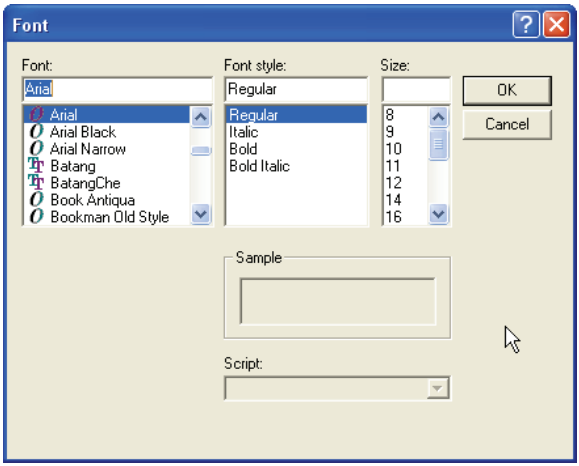
1. Right-click the mouse on a particular window, then click **Label**.



2. Rename the label in **Line 1**.



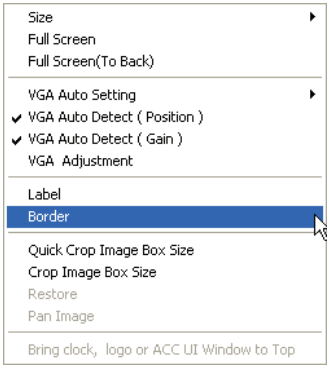
3. Click Font Color to change the label's font color.
4. Click B-G Color to change the label's background color.
5. Click Size 1 to change the label's font size.
6. If you would like to use Unicode font, click BMP Label to select it, then click BMP Label Font Type .
7. Select the **Font** / **Font style** / **Size** and click **OK** to apply it.

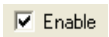


Changing the Border Width

To change the border width, perform the following steps:

1. Right-click the mouse on a particular window and select **Border**.

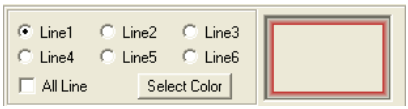


2. The default option is **Enable** 

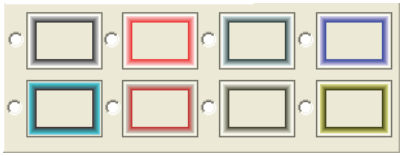
.

3. There are two options for border appearance:

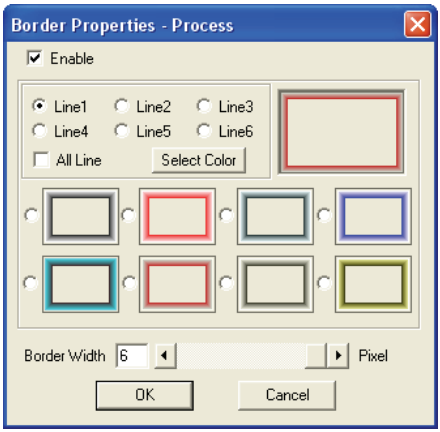
   - Each line in different color. Or, set all line to be the same color. Click the radio button to select the **Line#**. Click **Select Color** to choose the color, then click **OK** to apply.



   - There are eight options for choosing the 3D border. Click one of the 3D border's radio button to select it, then click **OK** to apply.



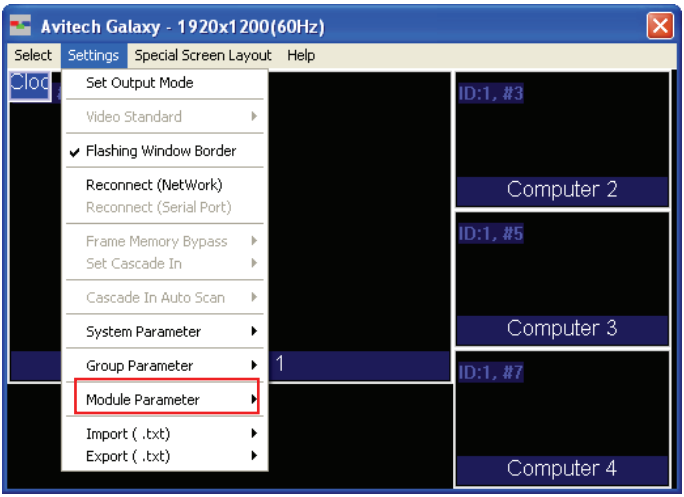
4. Use the slider on the item for **Border Width** or type in the value to set the width of the border. Enter **0** to disable the border or **6** for the maximum border width.



Auto-detecting the Display Resolution

By default, the VCC-8000 series will automatically detect the display resolution. To disable this feature, perform the following steps:

1. Click **Settings** then **Module Parameter**.



2. Click **Auto Parameter**.

3. Click to unselect (remove the check mark) the **Detect Display Resolution** option.

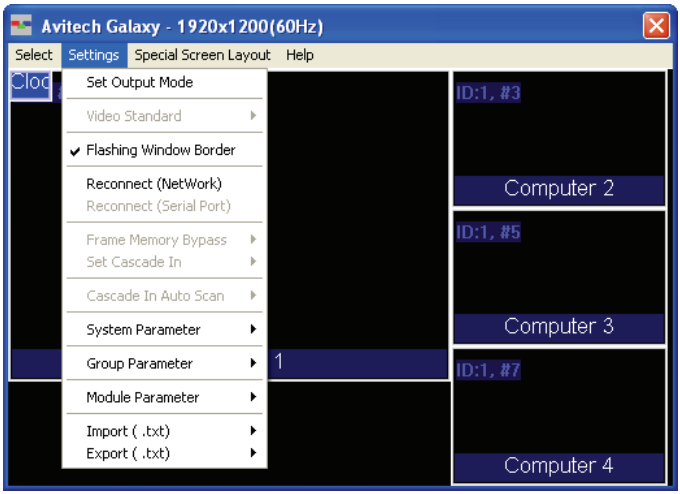
Setting the Active Window Feature / Configuring the Mouse

Included on your Galaxy program is the active window feature that allows you to set the border color of the active window.

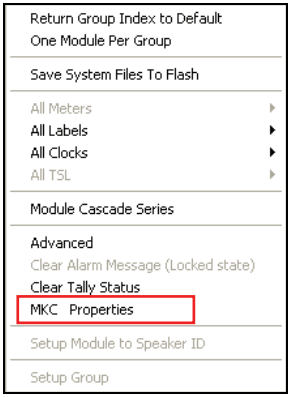
Also, you may want to configure the mouse to suit your needs. For example, if you are a left-handed user, you can swap the two buttons so that you can use the right button as the left button and vice versa.

To set the active window feature as well as configure the mouse, perform the following steps:

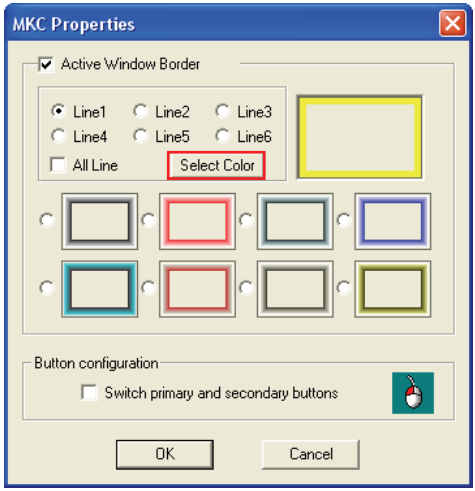
1. Run the Galaxy program by double-clicking the **`Galaxy-V311.exe`** file. When the following screen appears, click **Settings**.



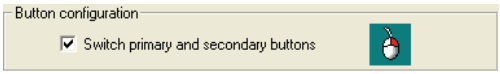
2. Click **System Parameter**, then **MKC Properties**.



3. The **MKC Properties** window will appear. Click the **Select Color** button to choose the desired color to be set as the border color.



4. To swap the two mouse buttons so that you can use the right button as the left button, click the check box to enable **Switch primary and secondary buttons**.



5. Then click **OK** when finished and exit the **MKC Properties** window. The Galaxy program would still retain the settings until the next time you change the settings in the **MKC Properties** window or you return the system to the factory-default state.

> **NOTE:** Other Galaxy program commands for controlling your VCC-8000 series are available. Refer to the Galaxy program manual for more details.

A Firmware Upgrade

NOTE: Marking labels located on the exterior of your device indicate the regulations that your model complies with. Please check the marking labels on your device and refer to the corresponding statements in this chapter. Some notices apply to specific models only.

A.1 Installing the Device Driver

This chapter familiarizes you with updating the firmware of your Avitech MKC. It is divided into two main processes:

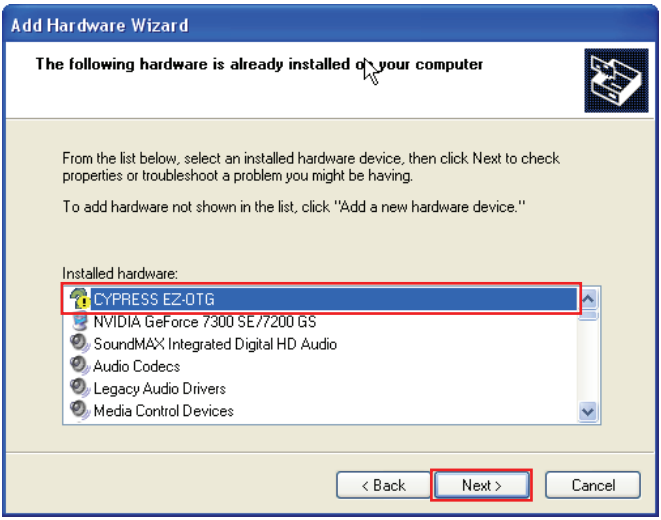
- Device driver installation (the first time you use the particular PC to update the firmware)
- Firmware update process

NOTE: You need to install the device driver only in the following conditions –
- When updating the firmware using a particular PC for the first time.
- When you change the operating system of the PC.

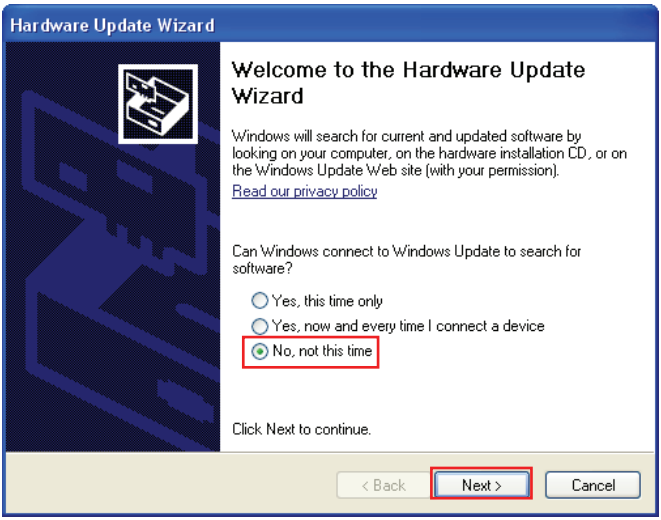
To install the device driver, perform the following steps:

1. Use an USB cable to connect one end to the MKC front panel's USB mouse port and the other end to the PC's USB port. The PC would then detect the new hardware and request for the device driver.

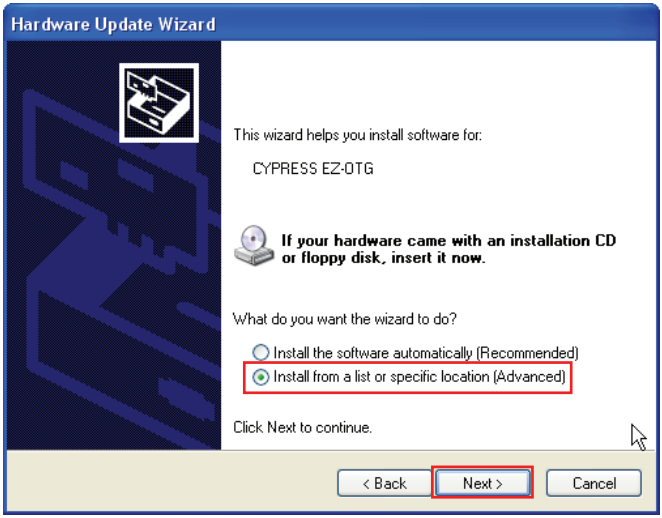
2. Go to your Windows' **Control Panel**, then select **Add Hardware**. The **Add Hardware Wizard** screen would appear. Click **CYPRESS EZ-0TG** to highlight it, then click **Next**.


Add Hardware Wizard
The following hardware is already installed on your computer
From the list below, select an installed hardware device, then click Next to check properties or troubleshoot a problem you might be having.
To add hardware not shown in the list, click "Add a new hardware device."
Installed hardware:
CYPRESS EZ-OTG
NVIDIA GeForce 7300 SE/7200 GS
SoundMAX Integrated Digital HD Audio
Audio Codecs
Legacy Audio Drivers
Media Control Devices
< Back
Next >
Cancel

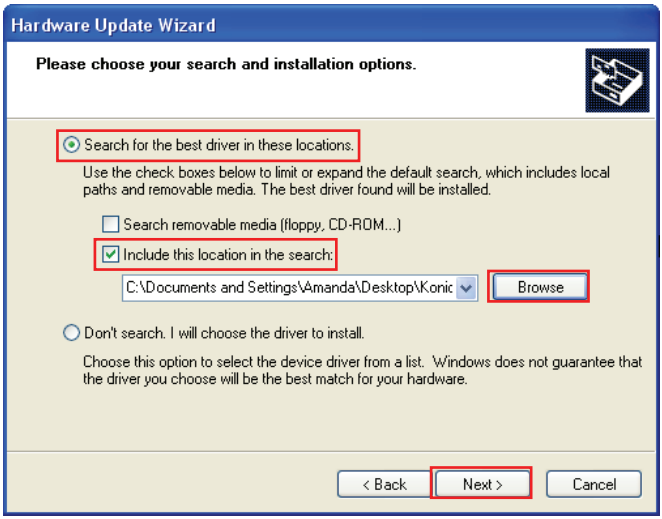
3. The **Hardware Update Wizard** screen would appear. Select the radio button for **No, not this time** and then click **Next**.


Hardware Update Wizard
Welcome to the Hardware Update Wizard
Windows will search for current and updated software by looking on your computer, on the hardware installation CD, or on the Windows Update Web site (with your permission).
Read our privacy policy
Can Windows connect to Windows Update to search for software?
Yes, this time only
Yes, now and every time I connect a device
No, not this time
Click Next to continue.
< Back
Next >
Cancel

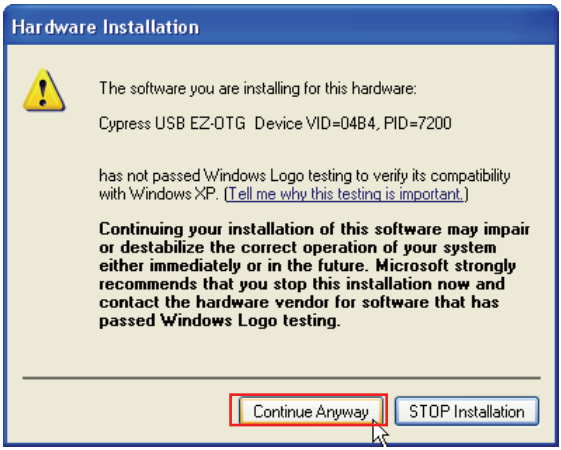
4. When the next screen appears, click the radio button for **Install from a list or specific location (Advanced)** to select it and then click **Next**.


Hardware Update Wizard
This wizard helps you install software for:
CYPRESS EZ-OTG
If your hardware came with an installation CD or floppy disk, insert it now.
What do you want the wizard to do?
Install the software automatically (Recommended)
Install from a list or specific location (Advanced)
Click Next to continue.
< Back
Next >
Cancel

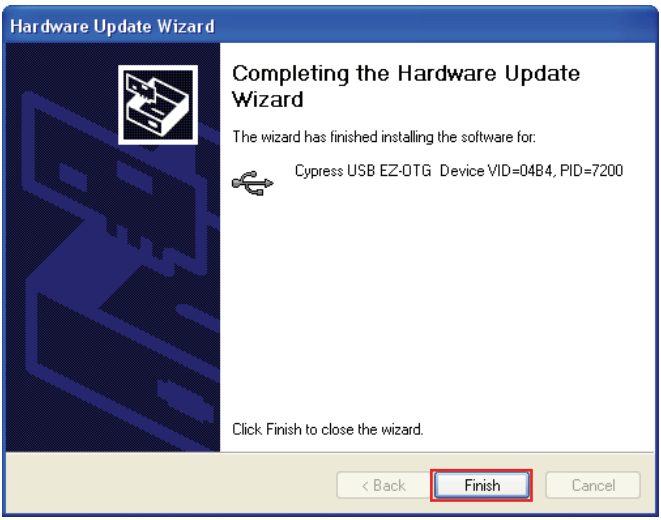
5. When the next screen appears, click on the radio button for **Search for the best driver in these locations** to select it, then click on the check box for **Include this location in the search** to select it. Click **Browse** to specify the location of the device driver file, then click **Next**.


Hardware Update Wizard
Please choose your search and installation options.
Search for the best driver in these locations.
Use the check boxes below to limit or expand the default search, which includes local paths and removable media. The best driver found will be installed.
Search removable media (floppy, CD-ROM...)
Include this location in the search:
C:\Documents and Settings\Amanda\Desktop\Konic
Browse
Don't search. I will choose the driver to install.
Choose this option to select the device driver from a list. Windows does not guarantee that the driver you choose will be the best match for your hardware.
< Back
Next >
Cancel

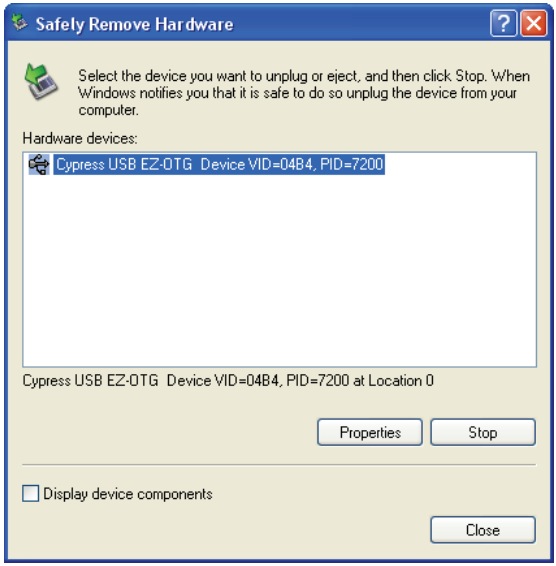
6. When the next screen appears, click **Continue Anyway**.


Hardware Installation
The software you are installing for this hardware:
Cypress USB EZ-OTG Device VID=04B4, PID=7200
has not passed Windows Logo testing to verify its compatibility with Windows XP. (Tell me why this testing is important.)
Continuing your installation of this software may impair or destabilize the correct operation of your system either immediately or in the future. Microsoft strongly recommends that you stop this installation now and contact the hardware vendor for software that has passed Windows Logo testing.
Continue Anyway
STOP Installation

7. When the next screen appears, click **Finish** to exit device driver installation.


Hardware Update Wizard
Completing the Hardware Update Wizard
The wizard has finished installing the software for:
Cypress USB EZ-OTG Device VID=04B4, PID=7200
Click Finish to close the wizard.
< Back
Finish
Cancel

8. After successfully installing the device driver, PC can now detect the MKC device name. To check, double-click the **Safely Remove Hardware** icon found on the Windows taskbar and the following screen would appear.


Safely Remove Hardware
Select the device you want to unplug or eject, and then click Stop. When Windows notifies you that it is safe to do so unplug the device from your computer.
Hardware devices:
Cypress USB EZ-OTG Device VID=04B4, PID=7200
Cypress USB EZ-OTG Device VID=04B4, PID=7200 at Location 0
Properties
Stop
Display device components
Close

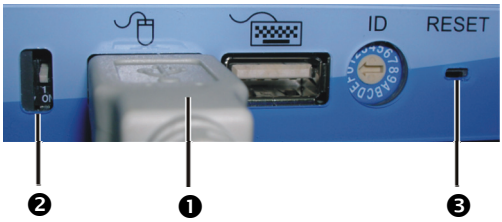
A.2 Updating the Firmware

To update the firmware, perform the following steps:

1. Use an USB cable to connect one end to the MKC front panel's USB mouse port and the other end to the PC's USB port.

   NOTE: Do not connect to the USB keyboard port, it cannot be used to update the firmware.

2. Use a small sharp-pointed object and push down the dip switch to the **ON** (**1**) position.
3. Use the small sharp-pointed object and press the **RESET** switch (upon pressing the **RESET** switch, the **Safely Remove Hardware** icon would appear on the Windows taskbar).



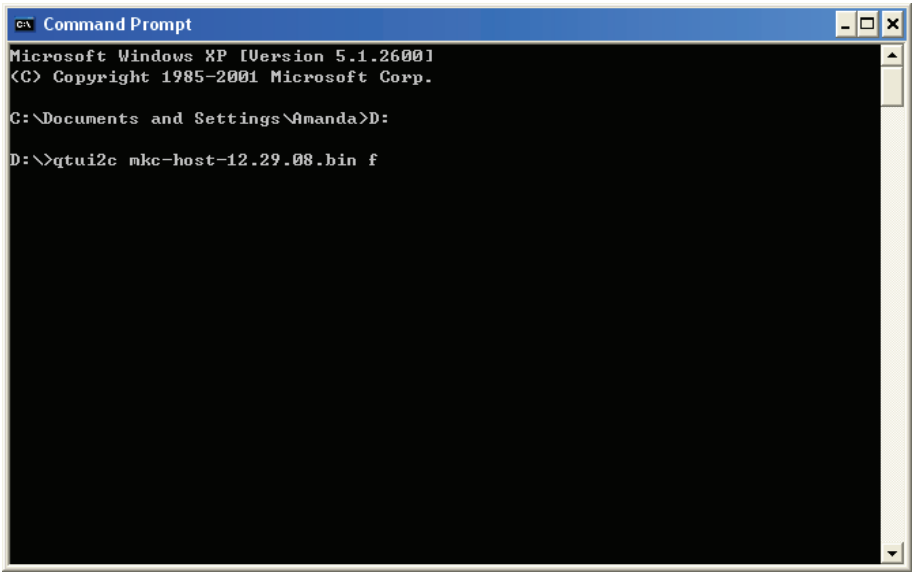
4. Use the small sharp-pointed object and push back up the dip switch.

> **NOTE:** If you did not return the dip switch to the upward position, firmware update would not be successful. You will then need to press the **RESET** switch again and return the dip switch to the upward position.

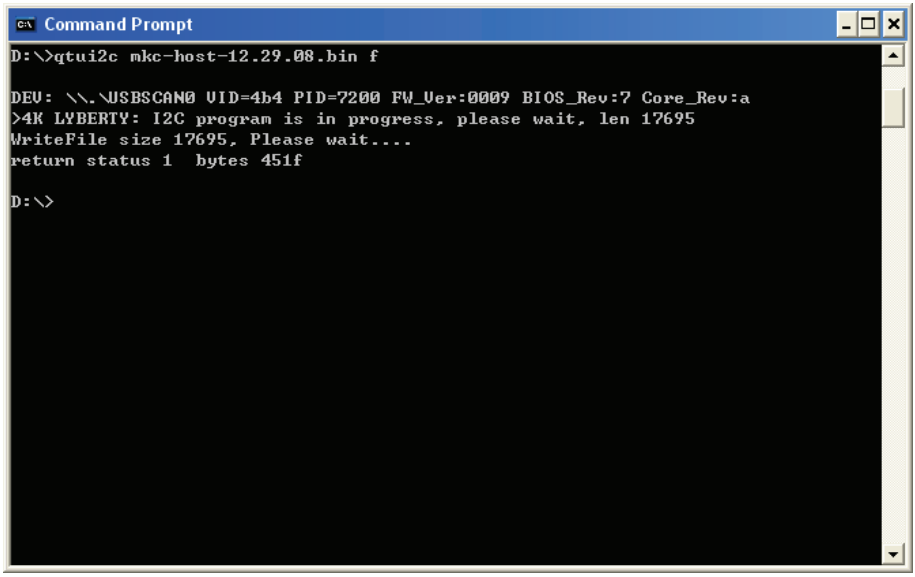
5. Click **Start → Programs → Accessories → Command Prompt** to enter DOS mode.

6. Type **`qtui2C mkc-host-xx.xx.xx.bin f`** (where **`xx.xx.xx`** is the firmware version's release date). The program would start the update process. (In the future this may be integrated into the Galaxy program, the firmware update method will then be the same as the other Avitech product lines.)

> **IMPORTANT:** Make sure the MKC host firmware file is located on the same drive and directory as the **`qtui2C.exe`** program file.



7. The update firmware process takes approximately 100 seconds.

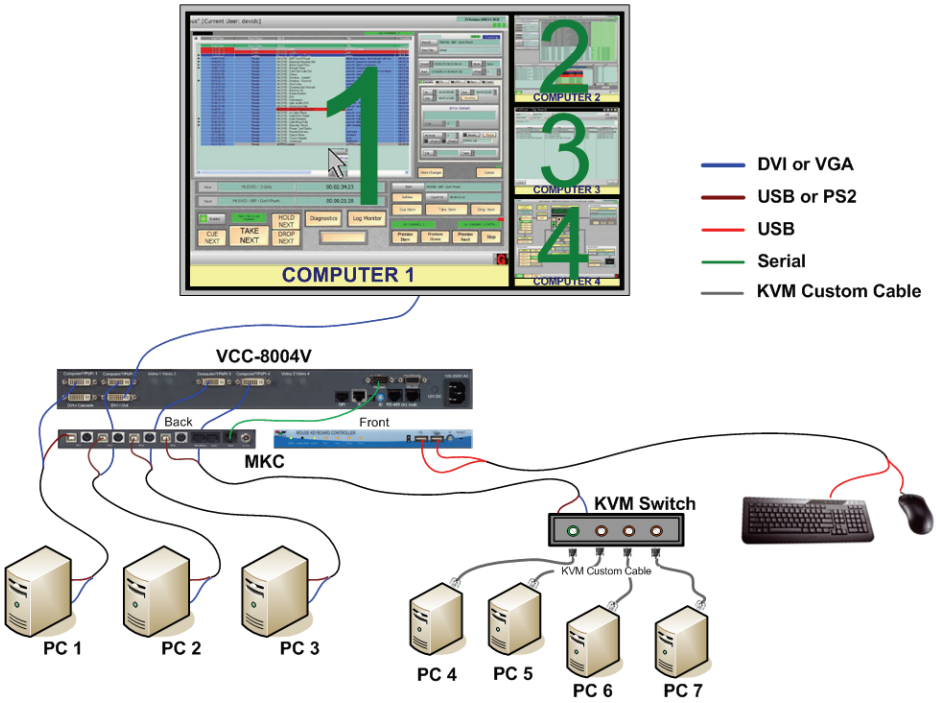

Command Prompt
D:\>qtui2c mkc-host-12.29.08.bin f
DEV: \\.\USBSCAN0 VID=4b4 PID=7200 FW_Ver:0009 BIOS_Rev:7 Core_Rev:a
>4K LYBERTY: I2C program is in progress, please wait, len 17695
WriteFile size 17695, Please wait....
return status 1 bytes 451f
D:\>

8. After the firmware update process has finished, use the small sharp-pointed object to press the MKC **RESET** switch.

You can start using the MKC by making sure that the remote PC, USB keyboard and mouse has been connected to the MKC.

B Using the MKC With KVM

The following figure shows a sample setup of a single group with one Avitech MKC and one VCC-8000 series connected to seven PC systems and one KVM (keyboard video mouse) switch.



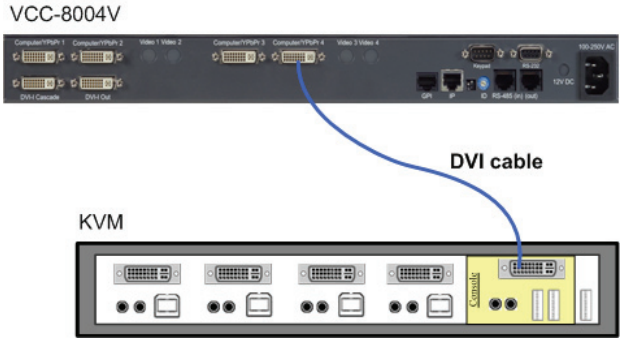
To set up one Avitech MKC and one VCC-8000 series and one KVM, perform the following steps:

1. Make sure the two VCC-8000 series has the factory default setting by performing the following steps.
   a. Power off the VCC-8000 series.
   b. Flip the right dip switch down.
   c. Power on the VCC-8000 series for 20 seconds.
   d. Flip the right dip switch back up.

> **NOTE:** Another method is to enter the Galaxy program to confirm if the baud rate for Com A is set at 57600 bps. If not, set it to 57600 bps.

2. Set the Rotary **ID** on the Avitech VCC-8000 series to **0**. The Rotary ID set at **0** indicates Master (it will show ID 1 on the Galaxy program).

3. Connect the four DVI / VGA / YPbPr signal cables between the VCC-8000 series' **Computer/YPbPr** ports and the three computer's DVI / VGA ports and one KVM's console DVI port.
   PC1 connects to the **Computer/YPbPr 1** port,
   PC2 connects to the **Computer/YPbPr 2** port,
   PC3 connects to the **Computer/YPbPr 3** port,
   KVM console's DVI port connects to the **Computer/YPbPr 4** port.



4. Connect the display monitor's DVI / VGA cable to the VCC-8000 series' **DVI-I Out**put port.

5. Connect the power cable to the VCC-8000 series and make sure that power is available.

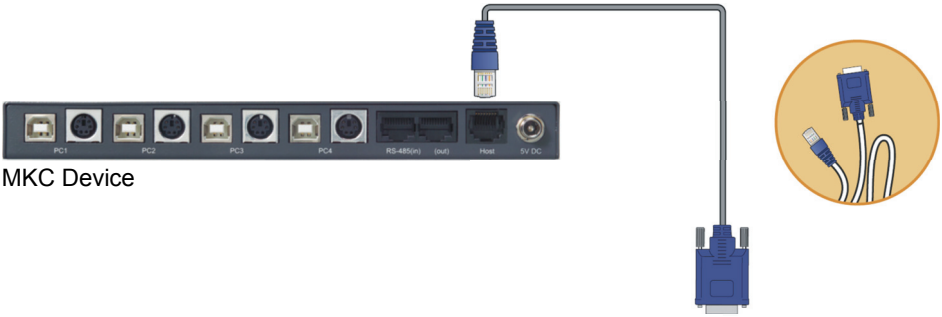
6. Set the Rotary **ID** of the Avitech MKC to **0**.

   NOTE: If the Rotary **ID** of the Avitech VCC-8000 series is not set to **0**, then make sure to set the Rotary **ID** of the Avitech MKC to be the same as the VCC-8000 series' (e.g., the VCC-8000 series is set at **5**, then the MKC must also be set to **5**).

7. Connect the mouse and keyboard devices to the corresponding mouse and keyboard USB ports located on the MKC's front panel.

   NOTE: If the mouse and keyboard is not connected to the corresponding mouse and keyboard USB ports located on the MKC's front panel, the MKC can still function properly.

8. Connect the RJ-45 to RS-232 cable between the MKC's **Host** port and VCC-8000 series' **Keypad** port.



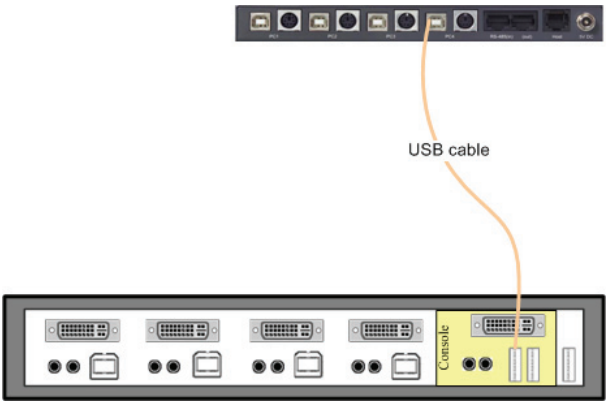
MKC Device

VCC-8004V

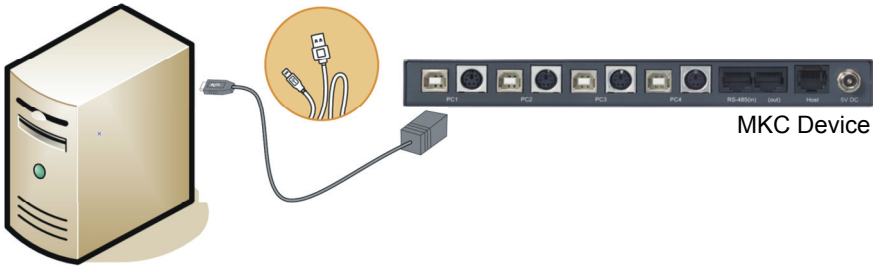
9. Connect the KVM's DVI / USB cable between the computers to the KVM switch.

> **NOTE:** The proprietary KVM cable is required when connecting the KVM switch to the four PCs.

10. Use the MKC's included USB-A to USB-B cables by connecting the USB-A end of the cable to the KVM console's USB port, and the other USB-B end of the cable to the MKC's **PC4** USB port located on the rear panel.



11. Use the MKC's included USB-A to USB-B cables or PS/2 Y cables to perform the following.
    Connect the USB-A end of the cable to the computer's USB port and connect the USB-B end to the MKC's **PC1** USB port (on the rear panel).
    Or, use the PS/2 Y-cable to connect one end to the computer's mouse and keyboard PS/2 ports and the other end to the MKC's **PC1** PS/2 port (on the rear panel).
    For the next two computers use the included USB-A to USB-B cables or PS/2 Y cables to connect to the MKC's **PC2** / **PC3** USB or PS/2 ports.



12. Move the mouse or press **Pause/Break** key and you will see the mouse pointer on the display monitor. You can now use the mouse or keyboard hot keys to perform various tasks (refer to a previous chapter for a description of the hot keys function).

The default mouse and keyboard is located on the VCC-8000 series (Host) end.

Take note of the following when connecting and using the KVM:

- Controlling PC4 ~ PC7 is done via the buttons located on the KVM's console or using the KVM designated hot keys.
- Due to the possibility that power to the MKC may be inadequate when connected to the KVM, it is highly recommended to connect the 5V AC/DC switching adapter to the MKC (ID0) and make sure that power is available.
- When using the KVM's VGA / PS2 / USB cable and connection between the PC's keyboard/mouse to the KVM is via the PS2 interface, then you need to first turn off power to the PC before making the connection. This is because the PS2 interface is not hot-pluggable so you need to first make the PS2 connection, then turn on power to the PC.

The following are the limitations when connecting using the KVM:

- The keyboard and mouse to be connected to the KVM's console port must support the USB composite device specification to be able to successfully connect to the MKC.
- If PS2 is the only available interface on your KVM's console for connection with the MKC, then a case-by-case solution is required. Contact your local Avitech sales representative for support.

C Glossary

DDC (Display Data Channel) VESA standard for communication between a monitor display and a video adapter. Using DDC, a monitor can inform a computer's video card about its properties, such as maximum resolution and color depth, to ensure that the user is presented with valid options for configuring the display.

Editing Window An image window that is presently used for editing.

Group (screen) A collective number of video or image windows showing on a monitor display.

Host Cursor The arrow shaped cursor generated by the VCC-8000 series. This can move from window to window and between screens. It can be used to size and position a window and other functions.

KVM Switch An acronym that stands for **K**eyboard **V**ideo **M**ouse. A typical KVM switch lets you share a monitor display, and one USB keyboard and mouse, with a specific number of computers. Its compact design helps you organize and save your desk space by reducing clutter.

Remote System Computer or a KVM switch that has its mouse/keyboard connected to the MKC and its image output is shown as a window on VCC-8000 series.

Rotary ID Selector Switch A circular dip switch used to set a unique ID to each VCC-8000 or MKC module. The rotary ID selector switch's range spans from **0** ~ **9** and then from **A** ~ **F**. For the Galaxy program to recognize specific modules in a group, each module in a group setting HAS to have a unique ID number. When ran, the program will detect a module's specific ID and add unity to it. Therefore, if a module has an ID of **1**, the program will detect it as **ID2** while an ID of **2** will be detected as **ID3**, and so forth.